TECHNOLOGY DEPARTMENT

Gas Journal

Vol. 254. 100th Year. LONDON, JUNE 30, 1948. No. 4439. Price 1/-

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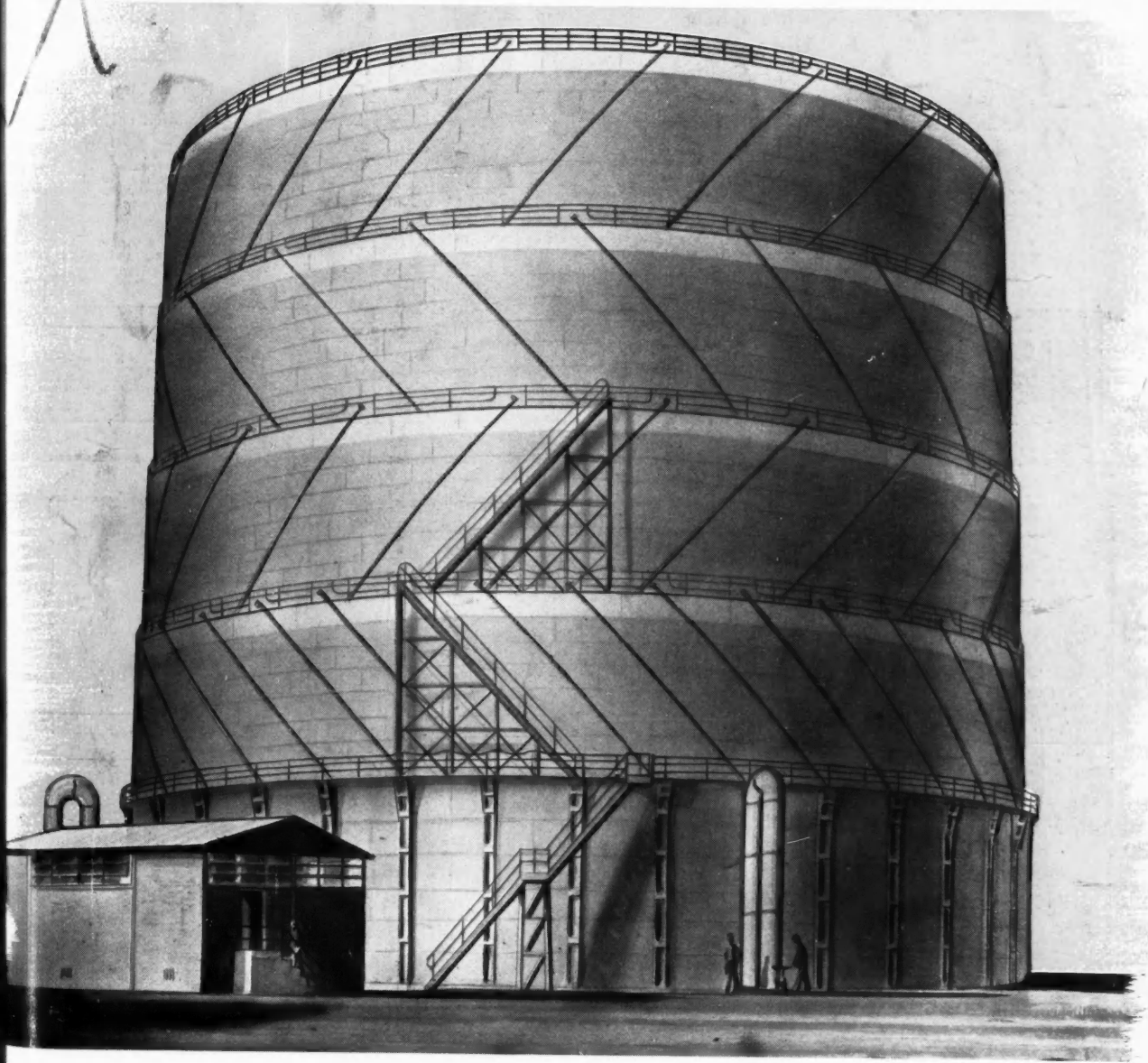
DETROIT

Darlington's New 3 Million Gasholder



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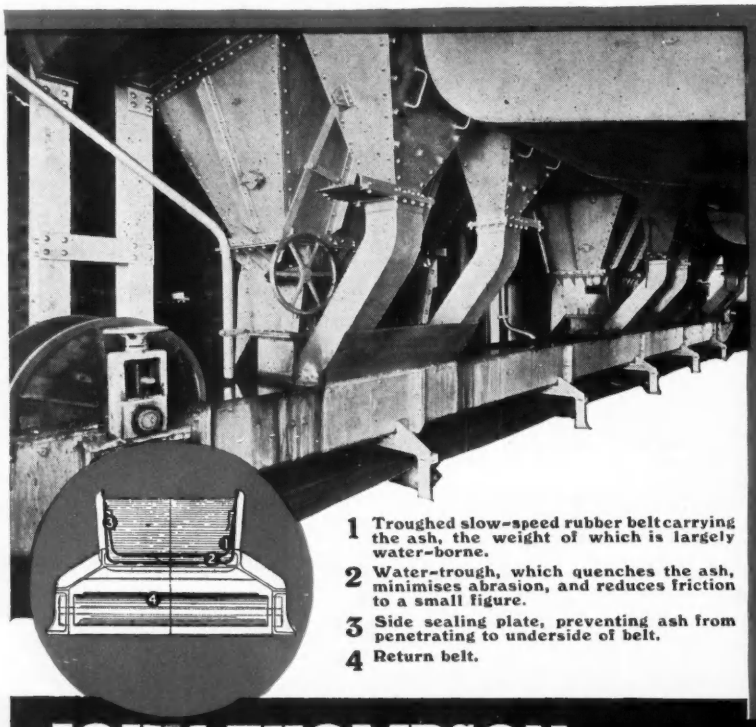

1 Troughed slow-speed rubber belt carrying the ash, the weight of which is largely water-borne.
2 Water-trough, which quenches the ash, minimises abrasion, and reduces friction to a small figure.
3 Side sealing plate, preventing ash from penetrating to underside of belt.
4 Return belt.

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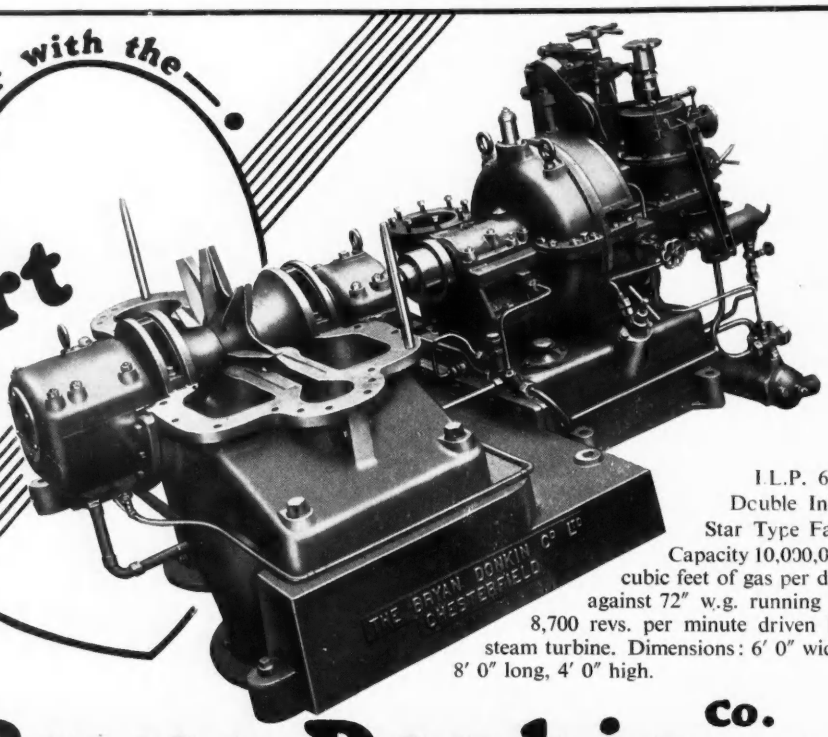

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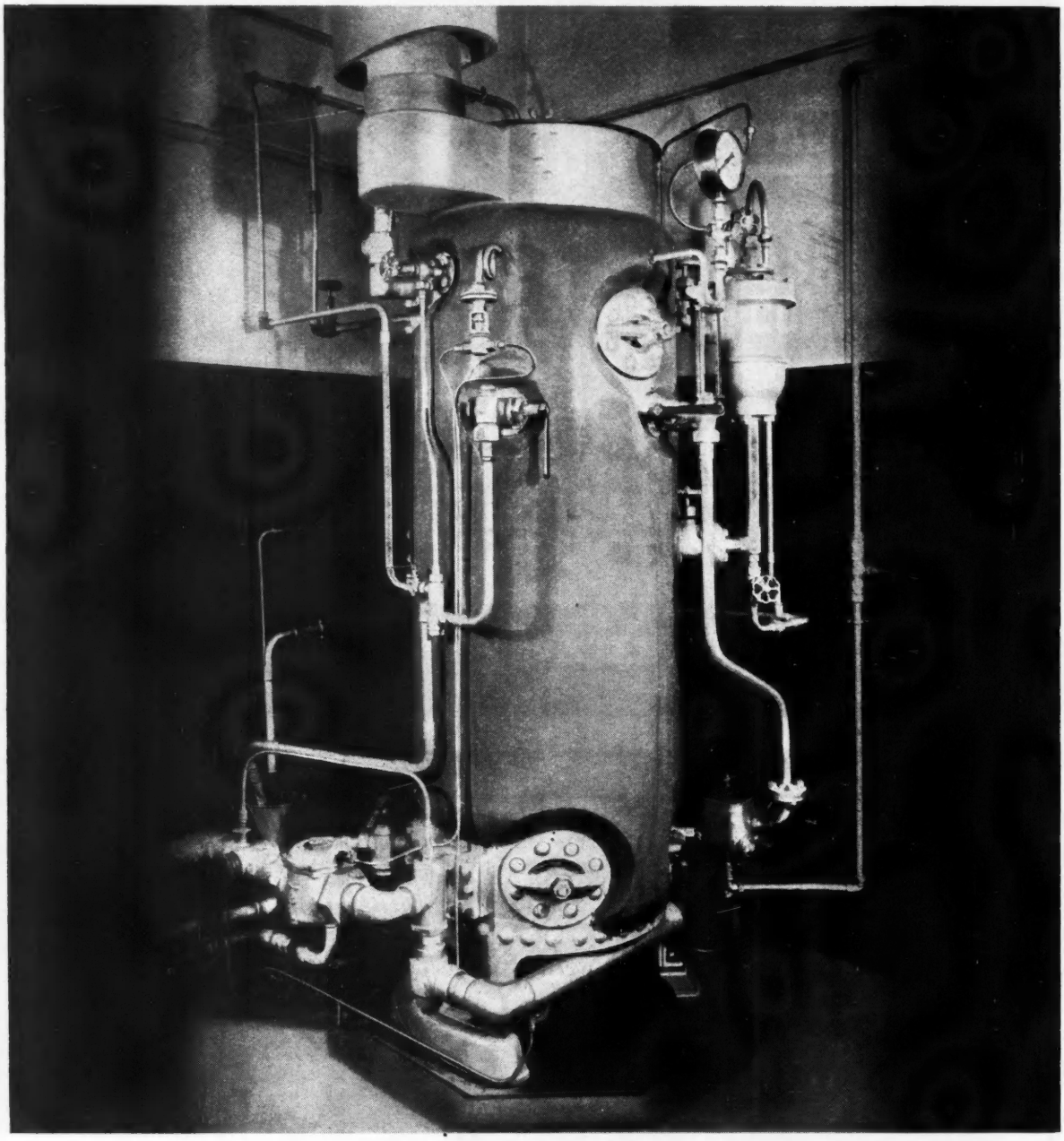

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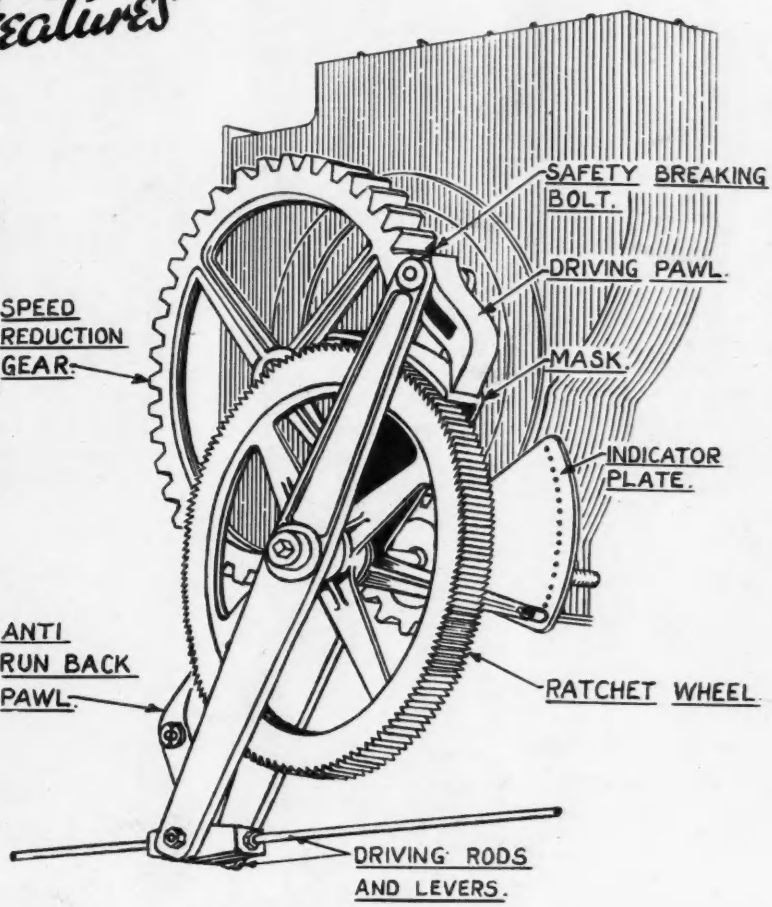

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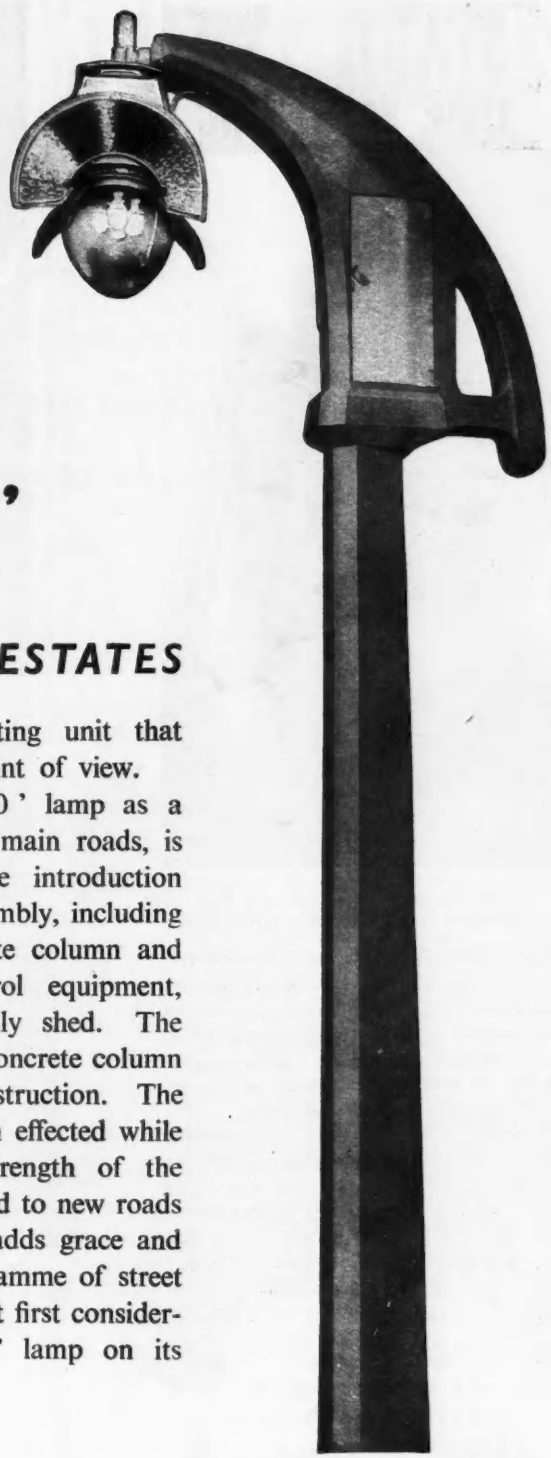

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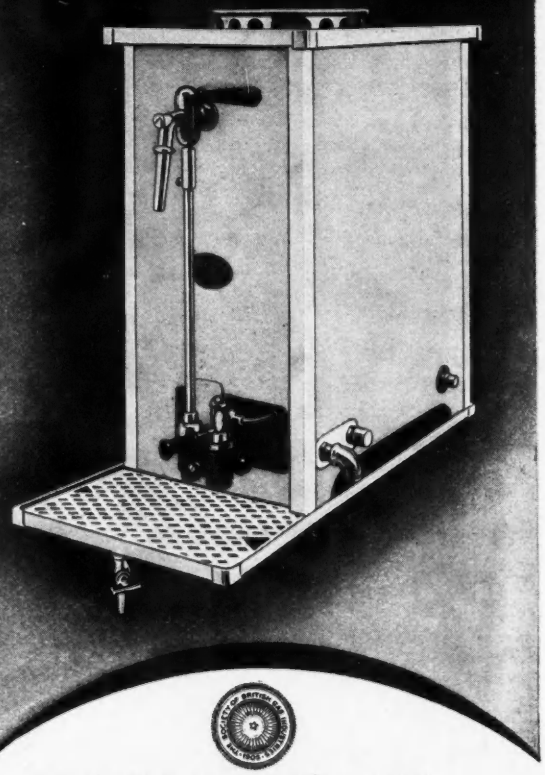

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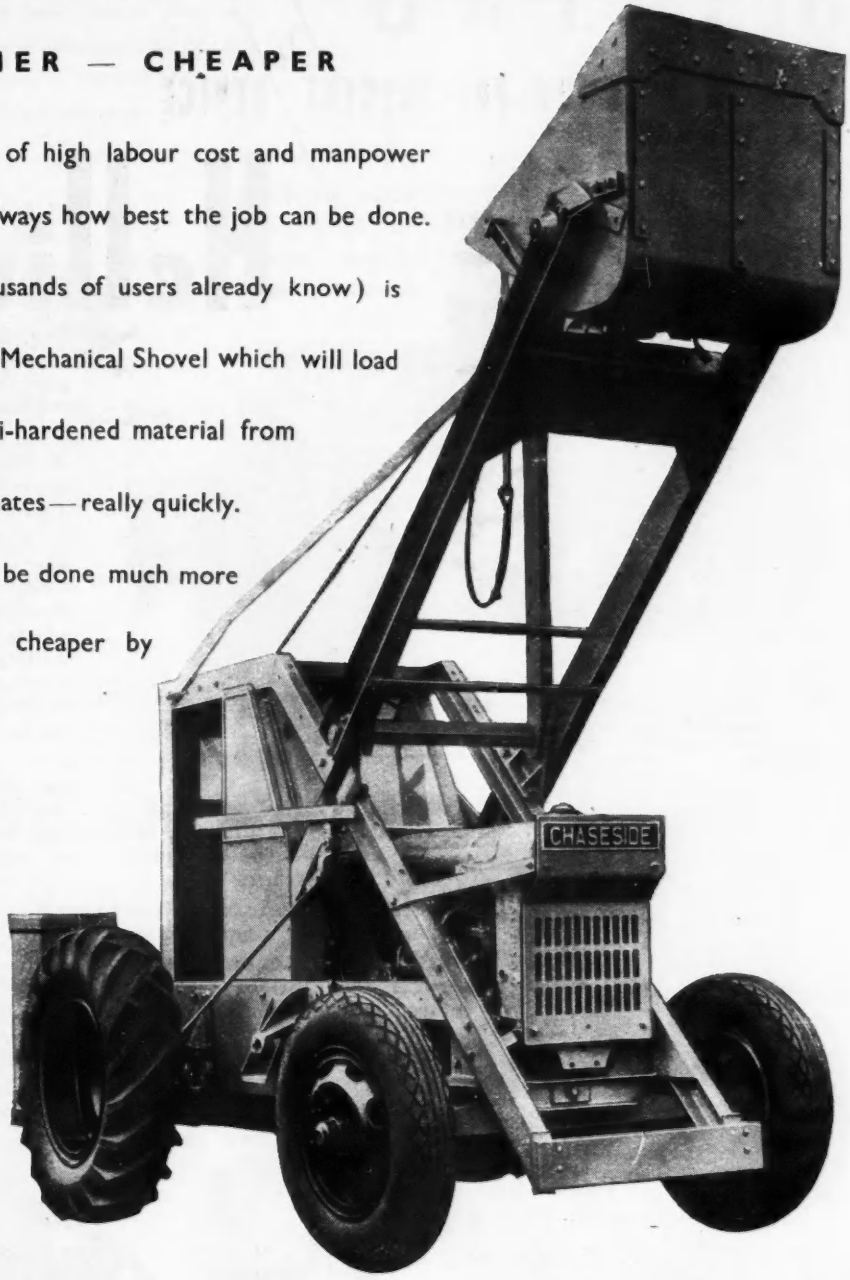

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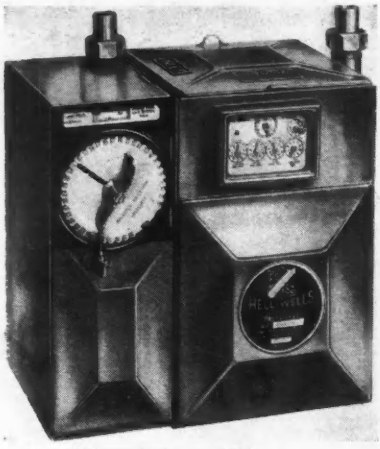

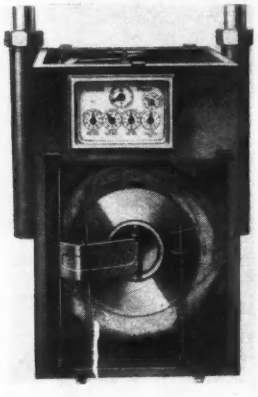

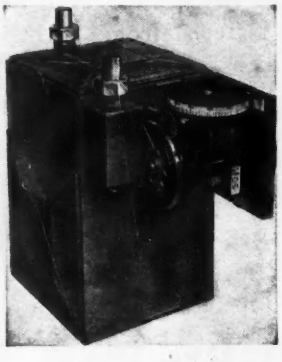

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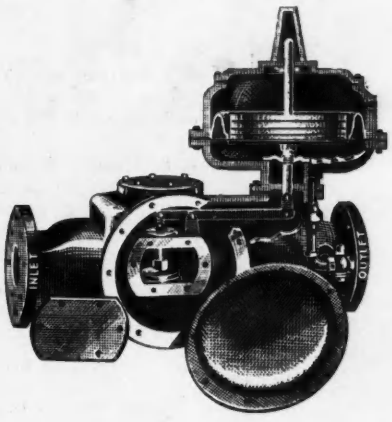

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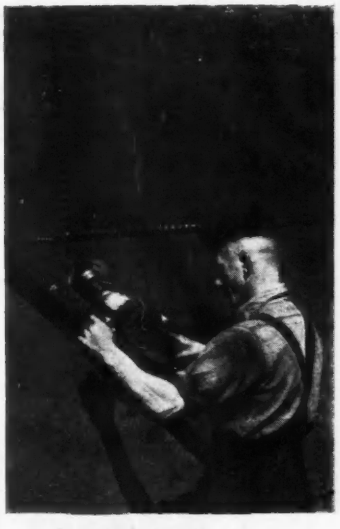

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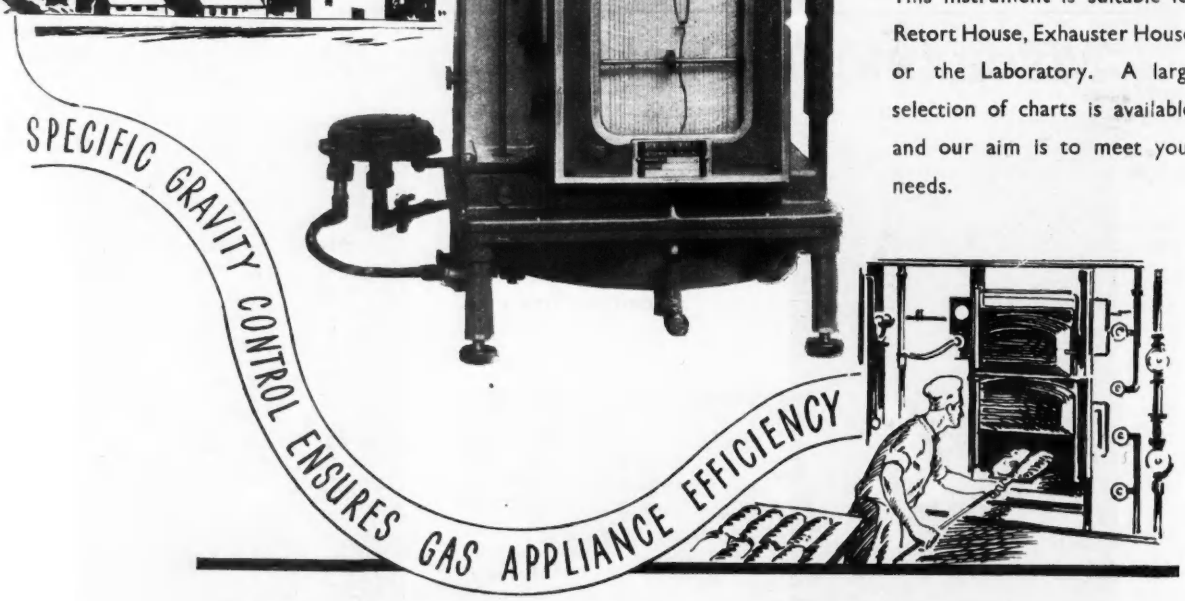

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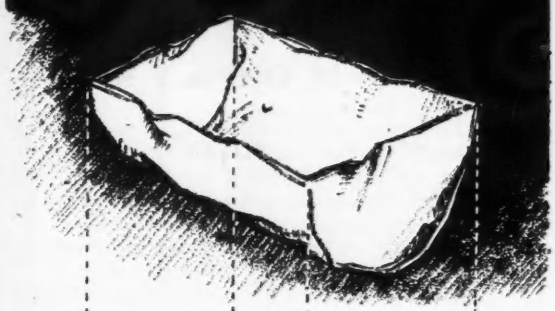

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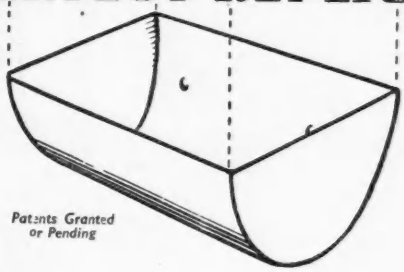

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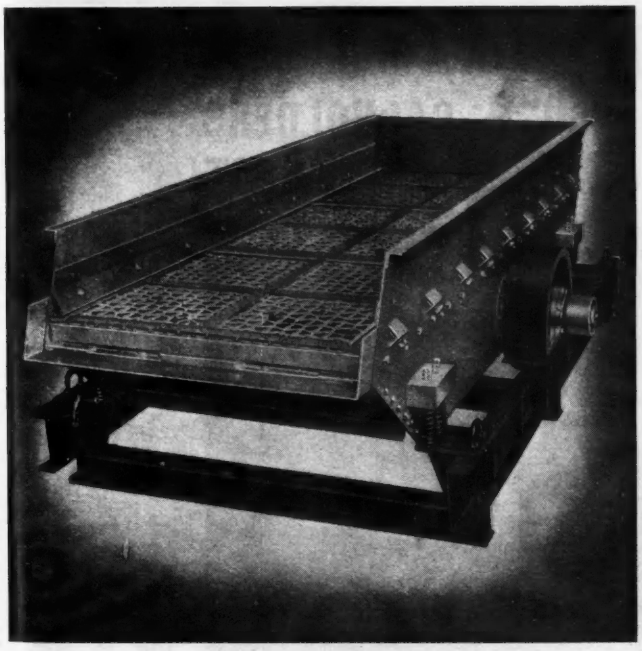

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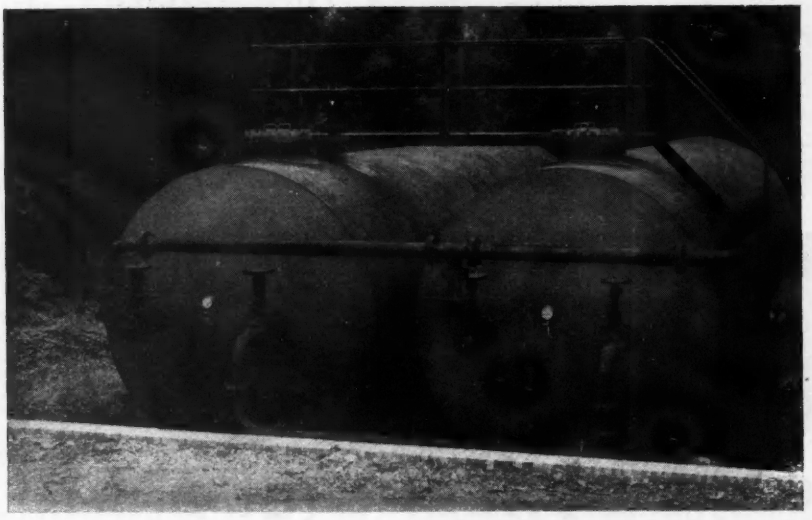

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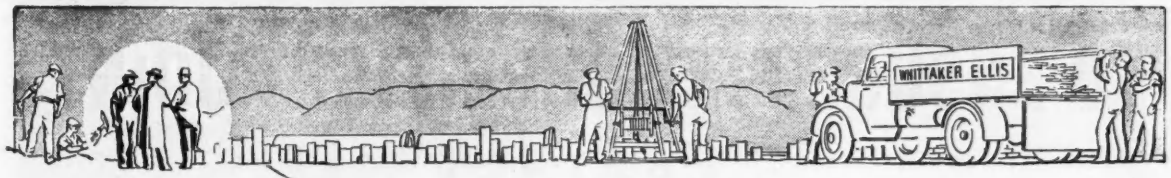

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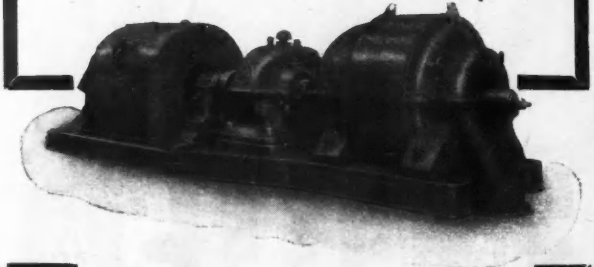

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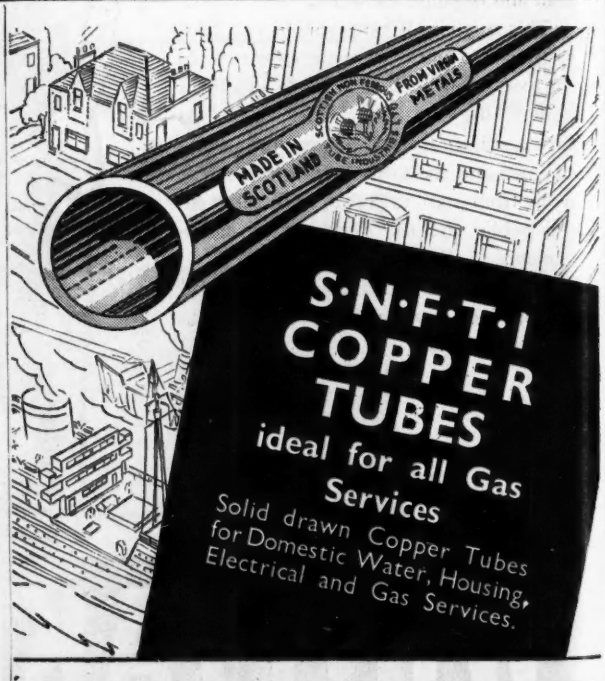

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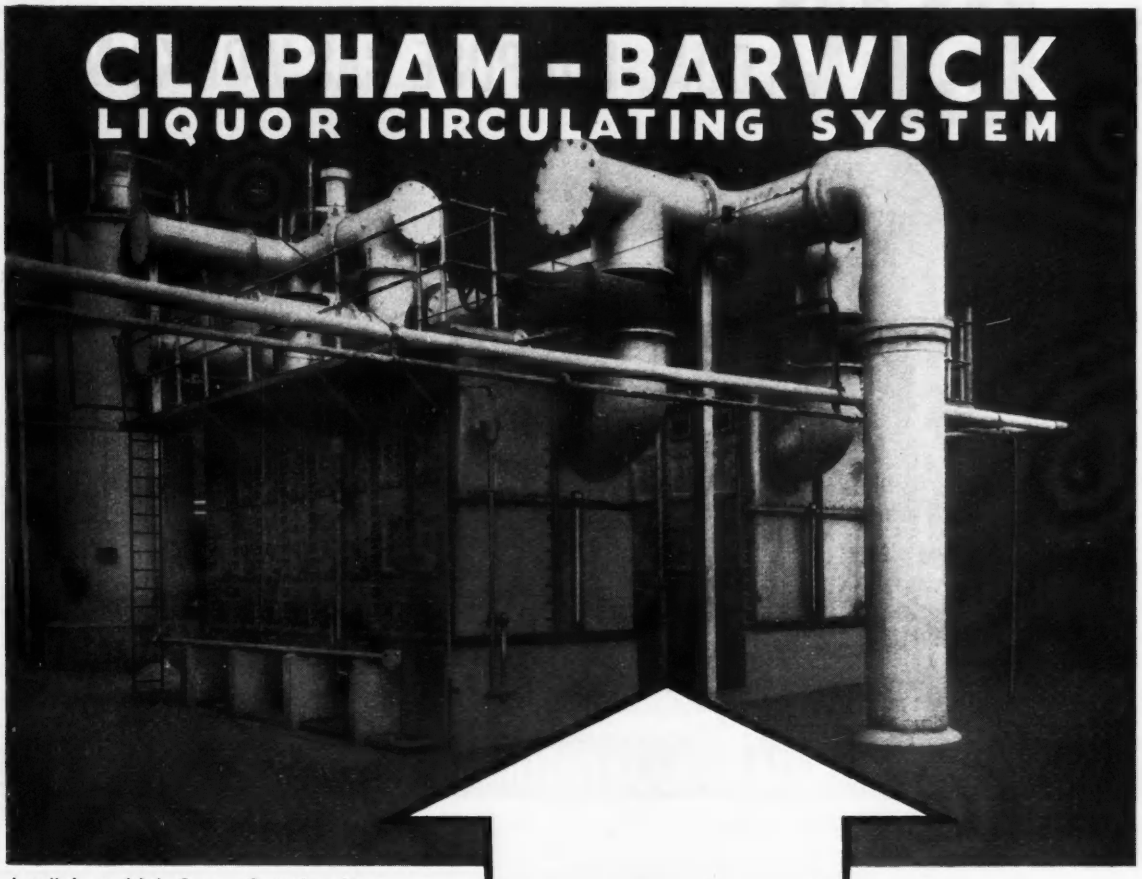

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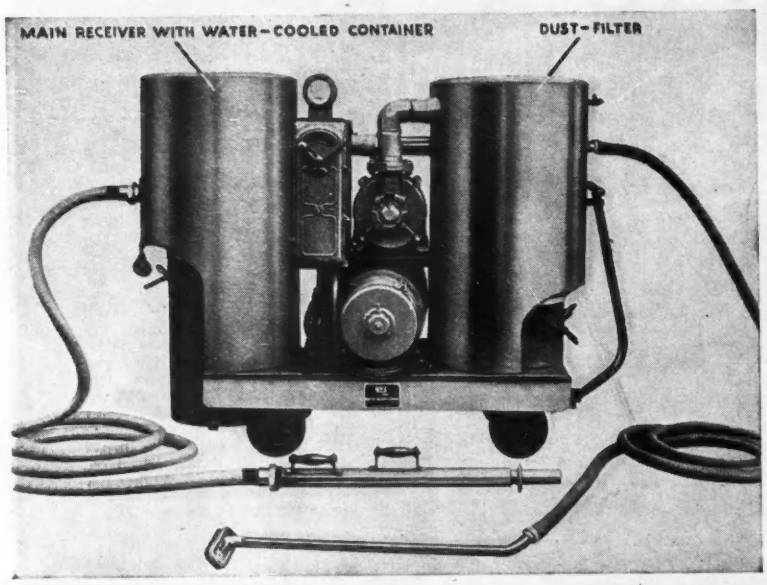

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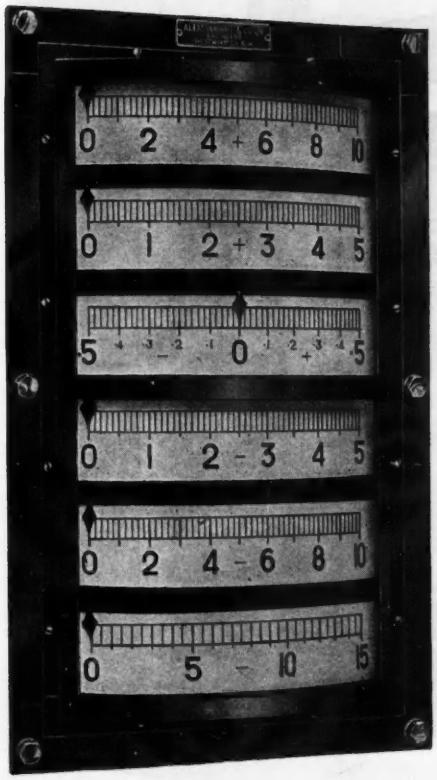

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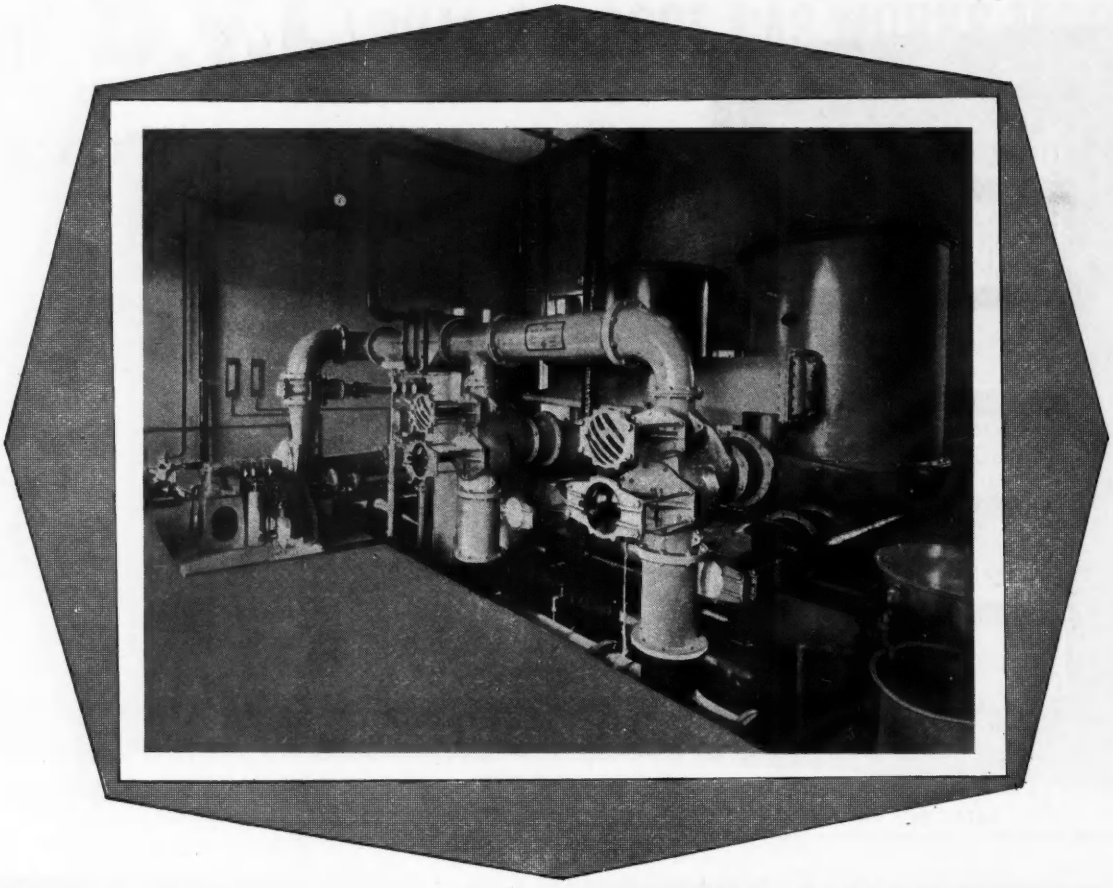

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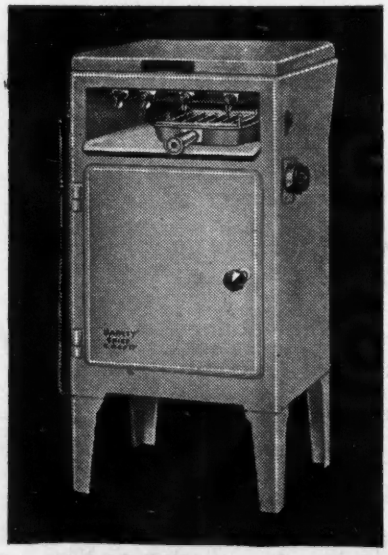

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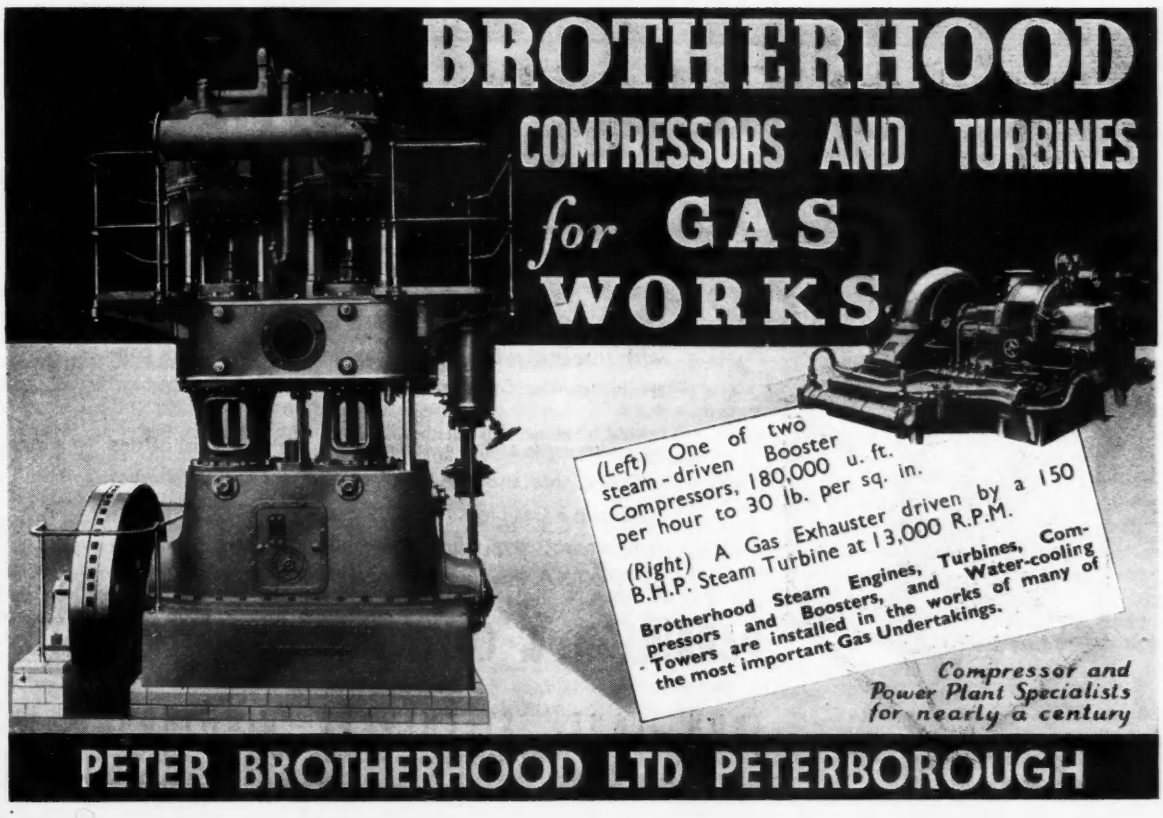
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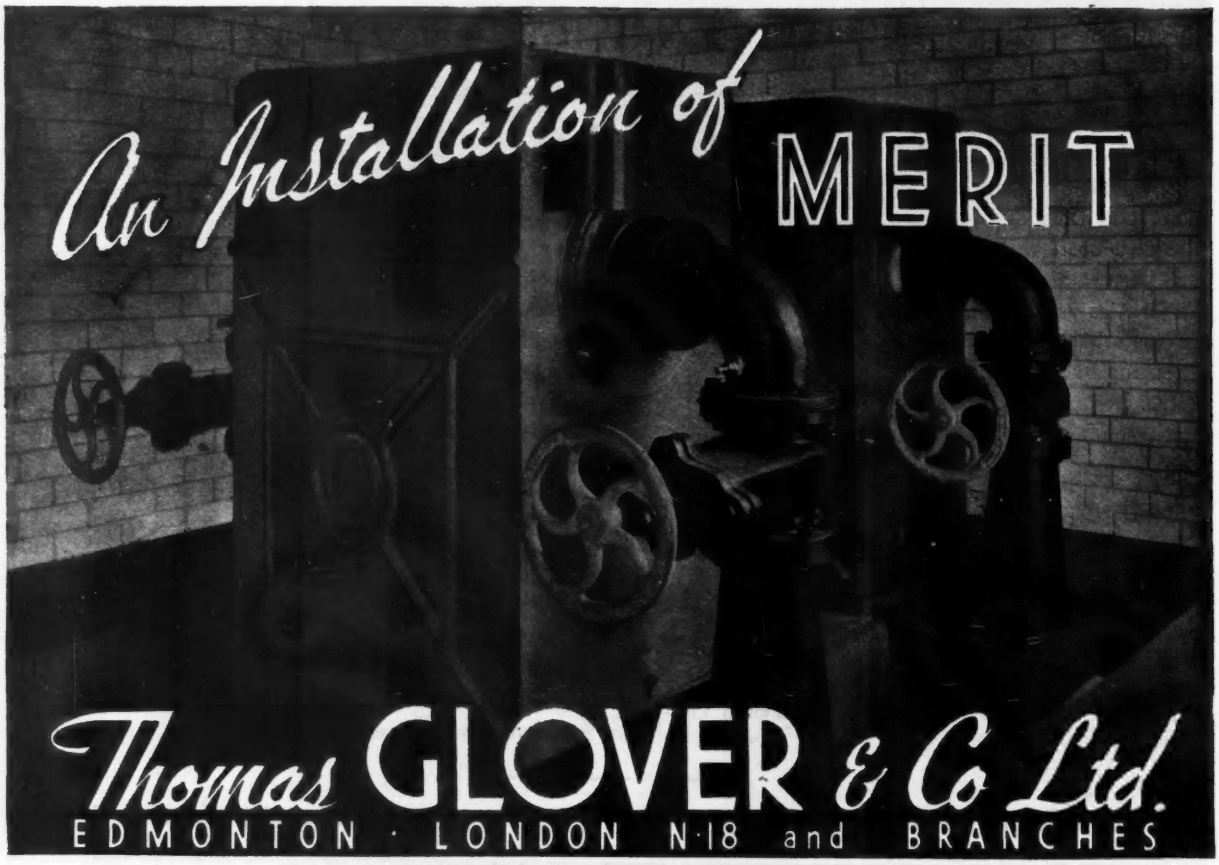

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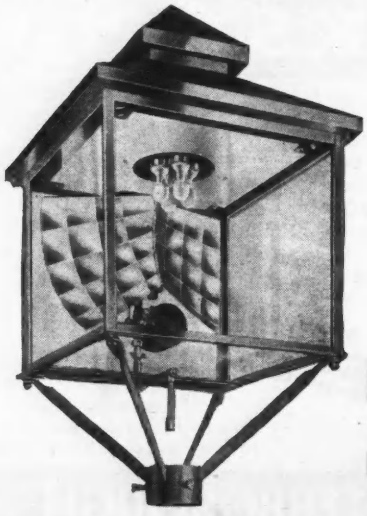

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L.D.2

GAS JOURNAL

Vol. 254 June 30, 1948 No. 4439

THE GAS BILL

ON Tuesday of last week, in the House of Lords, the Gas Bill was read a Second Time after debate which showed that many of the noble Lords in the House are, in fact, not well informed about the gas industry. We had, for instance, Lord Chorley commenting glibly on maximum prices and sliding scales as the basis of gas charging, suggesting that a maximum price could in any event provide no inducement to efficiency, though the sliding scale was rather more satisfactory. Lord Chorley's summing up of gas industry efficiency is for all to read in the Official Report of Parliamentary Debates, and we would like to quote what we regard as a typical current ideology:—"The only way in which you can achieve a satisfactory and reasonable price is by nationalizing the monopoly, by making it the community's monopoly, and no longer the monopoly of a few private individuals."

The Lord Chancellor, Viscount Jowitt, led for the Government on Second Reading of the Bill and, incidentally, he was highly complimentary to the organization of the Gas Light and Coke Company which, under the new title of the North Thames Area, would include the undertakings of the Romford and Commercial Gas Companies. Such amalgamation into a composite whole, he suggested, had been prevented due to parochial prejudice. He added that, much to his misfortune, he had read the entire debate on Standing Committee D in the House of Commons, and that he had not in the least been edified as a result. Lord Jowitt, who based his case on the findings of Sir Geoffrey Heyworth and Lord Simon, praised the work of certain holding companies while brushing aside as purely financial ventures the limited achievements of others. And he went on to say that "larger gas supply areas are essential because in these days the physical development of gas supply must be planned on a large scale, and physical development is taking place all the time. Distribution systems have to be extended, and decisions on these matters have to be taken up and down the country, month by month, whether the industry is nationalized or whether it is not. Surely, with our limited resources of to-day, it is essential that this planning should be done on the right lines, not bounded by the parochial viewpoint of small undertakings, but related to the needs of the area as a whole, and particularly to the possibilities of interlinking undertakings by means of gas grids."

"I ask your Lordships," said the Lord Chancellor, "to give a speedy passage to this Bill. I do not promise—and I have never done so in these nationalization Bills—that this Bill will lead to reductions in the cost of gas. I make no such promise. That depends largely upon other factors—miners' wages, the price of steel, and all sorts of factors which are outside the industry's control. All I predict is that, when these Areas Boards are set up, the large-scale planning of capital development which I have described will enable them to produce gas more cheaply than would otherwise have been possible."

The Bill was read a Second Time and committed to a Committee of the whole House.

WORK WELL DONE

IT was inevitable that nationalization should eclipse the rest of the contents of the third annual report presented to the British Gas Council last Wednesday, yet, quite apart from the political events of the past six months, the report comprises a comprehensive factual review of a considerable amount of work very well done during a difficult year. The report is available to at least 95% of the industry (on the basis of gas sold) and on pp. 797-798 we publish our own report of the proceedings at the meeting at Gas Industry House, in the course of which several of the subjects in the report were summarized, praised, and criticized. There is therefore no need to quote at length from its 32 pages; rather would we point to some of the matters which, though of wide concern, did not arouse comment at the meeting. Our own experience in endeavouring to present week by week in the "JOURNAL" an intelligible summary of the proceedings on the Gas Bill prompts us to compliment the compiler of the report on the skill with which the story is compressed into little more than six pages.

Second only in importance to nationalization is the wide field of legislative and administrative affairs which engage the attention of the Council, among which may be mentioned the Companies Act (which affects gas companies' accounts presented on and after July 1); the Town and Country Planning Act (in regard to which the Council secured the exclusion of the work of breaking open highways except for the purpose of laying new mains, from the definition of "development" requiring the consent of the Town and Country Planning authority); the District Heating clauses in the London County Council (General Powers) Bill (in regard to which the Council secured that the powers were restricted to the supply of district heating by the City of Westminster to three housing estates); and mains and cables in highways, mining subsidence, war damage, private Bills, taxation, and rating. Purchase tax on gas space and water heaters was reduced from 100% to 66⅔% just in time to be mentioned in the report, and it is noted that the Council will continue to urge that purchase tax be removed from all gas appliances.

Close co-operation has been established between the National Coal Board and the B.G.C., and negotiations are proceeding on the proposals of the Board for the classification and evaluation of coal and the introduction of an overall price structure and conditions of contract. A Materials Committee has been set up to facilitate negotiations with the appropriate Government Departments and to work in close co-operation with the Society of British Gas Industries on problems of the supply of plant and materials. While there has been some improvement in the availability of materials for the erection of plant, silica remains a difficult bottleneck, and lack of adequate supplies of steel and cast iron for tubes and fittings continues to cause anxiety.

The rest of the report puts on record the activities of the Domestic and Industrial Gas Development Committees, the Home Service Department, Salesmen's Circles, Women's Gas Council, and the many and various phases of publicity work

handled at Gas Industry House, which have been reported from time to time either in the "JOURNAL" or in our monthly "GAS SERVICE." A closing paragraph suggests that the past year's achievements demonstrate the self-reliance, adaptability, and reliability of the gas industry in meeting unprecedented conditions and afford evidence that the industry is able to meet the social, industrial, and economic circumstances of the present and future. The war and its aftermath has emphasized the essential importance of the gas industry to the nation; if at the same time the desirability of reconstruction has been made clear, so has the ability of the industry to develop its future on evolutionary and flexible lines.

THE COAL BOARD SET-UP

IN debate in the House of Commons last Thursday the organization of the National Coal Board came in for pungent criticism. Colonel Lancaster, the Conservative Member for Fylde, put forward a detailed plan for the reorganization of the coal industry based on the conception of allowing full autonomy at the point of production and reintroducing local loyalties and incentives. He argued that the production unit must become the centre of administration, that the present 49 areas should broadly be rationalized into 30 producing units, that units of this size would warrant an organization carrying its own chairman and board of management. To all these 30 producing units should be dedicated a wide measure of autonomy. The N.C.B., under Colonel Lancaster's scheme, would remain in London, not concerned with functional control of the industry, but as a policy-making body co-ordinating the activities of the centres. Its staff could be cut down, he maintained, by at least 500 members. "Experience has shown," he said, "that to expect men unfamiliar with the industry to play a useful part is a complete fallacy. The experiment must be scrapped." The main essentials, he continued, were leadership and a system of organization which, while maintaining reasonable financial and directional control, allowed of a full measure of autonomy at the point of production; co-ordination in such a manner that guidance, advice, and the freest exchange of knowledge and research could flow; a reintroduction of local loyalties and incentives which would appeal both to men and management, with the necessary freedom to specialists and technicians to operate in their own spheres; cessation of the practice of placing men in responsible positions or in an advisory capacity who had not the necessary training and experience; and, most important, a determination to co-opt at every level and through every practical device the help and contribution which men. management, union leaders, and administrators could make There would be no recovery unless the Government were prepared to swallow their pride and introduce drastic reforms. Sir D. Maxwell Fyfe moved to reduce the Vote .for the Ministry of Fuel and Power to £5—a motion which was negatived by 233 votes to 101.

The Minister of Fuel and Power, Mr. Gaitskell, defended the nationalization of the coal industry with much vigour. though for once in a while his arguments—if they were arguments—appeared to us to be confused and the figures he put forward lacking in conviction. "The Board," he said, "has been depicted by its enemies as a group of tired ineffective, overworked men, remote from the coalfields, indifferent to their jobs, and almost battening on the community. I see them as a body of able, hard-working men inspired by a determination to make their job a success but very conscious of the immense problems they have to tackle and of the difficulties in their path." It seems that it is not in the form of the N.C.B. that the Minister senses impediment but in the spirit of the miners. He suggested that the N.C.B. has already done much to improve this spirit, and contended that no change in its set-up could affect the fundamental problem of moral. "We must," he said. "get rid of the ghosts of the past." Whatever this may mean, we are sure that the decentralization envisaged in such a practical way by Colonel Lancaster is the answer to many coal industry problems, and that without decentralization gas industry nationalization would fail. Fortunately decentralization is, in fact, one of the major themes of the Gas Bill.

THE VERY HARD SCHOOL

REVERSING the order usually observed among the Juniors and adopting the procedure of the Institution of Gas Engineers, Mr. C. A. Deas deferred his Presidential Address to the London and Southern Junior Gas Association to the end of the session and delivered on June 18 what was rightly described as a stimulating address, conspicuously devoid of flights of fancy. In a forthright reference to education he expressed the view—without belittling the efforts of the organizers—that the intensive training courses do not afford the type of training the industry requires. The right works atmosphere, in his view, can come only *via* the hard school of experience. A great step forward, however, is the new scheme providing for Associate Membership of the Institution by examination—the "hard school"—due to come into operation in 1952, which will add materially to the professional status of the Assoc.M.Inst. Gas E., if not to his ability to turn on or off the requisite valve at the appropriate time.

The people who are still not adequately provided for are the N.C.O.s of the industry—the foremen, without whom the average works would be in a sorry state. They have been aided to some extent by the courses in gas technology sponsored by the City and Guilds of London Institute, but there is no course actually in operation in the London area. The Ministry of Labour has introduced its "Training Within Industry" lectures for supervisors, but if the gas industry is to progress, particularly with the introduction of scientific methods of plant control, the training of foremen must receive more attention. Mr. Deas suggests that this is a matter to which the Institution might well give consideration, though a training scheme in itself will not make a foreman; he must be temperamentally suited for the post and have the necessary personality, ability to lead men, and plenty of common-sense. Mr. Deas outlined a scheme under which five to six years would elapse between the time a man had completed his technical training at 21 and the time he became a relief foreman, which would in effect mean that he would normally be eligible for promotion to full foreman while in his early thirties.

Irrespective of hard schools, if the industry is to flourish its personnel should be happily employed, and an important section of Mr. Deas's address was devoted to conditions on the works, a matter with which he dealt at some length in a paper he presented to the same Association in 1944. It is not a question of providing the "hard school" foreman or deputy-designate with a divan. The point is that unless operating conditions are as comfortable as circumstances will permit, the best results are not likely to be obtained.

We have not yet heard much about the completely new works which the Tottenham and District Gas Company is erecting at Ponders End, but we are sure that many of the ideas suggested by Mr. Deas will be translated into facts at what has been suggested will be one of the finest works in the country. We congratulate Mr. Deas on having been selected to take charge of the new works.

From works operation Mr. Deas passed on to give some gems of practical experience and had some pertinent comments on peak loads, pointing out how costly such loads are. The troubles of the electricity industry should be a sufficient warning of the folly of encouraging the use of fuel for "topping-up" purposes. Electricity can offer no alternative fuel to enable consumers to reduce their peak load. whereas the gas industry is able to offer a complete service

in the form of gas plus coke. While Mr. Deas dreams of the day when the industry can send out nothing but gas he is all for the development of a two-fuel service, and says, in brief, "Educate the consumer to meet his own peak loads with therms stored in his own cellar in the form of coke." The address will be published in full in "GAS."

VISUAL AIDS TO LEARNING

THE British Gas Council is doing an excellent piece of work in developing a new technique of instruction based on the visual method. The Council's Mobile Film Projection Scheme has met with a warm welcome, and is unquestionably fulfilling an important service for the gas industry. As example, science teachers throughout the country have been wholehearted in their appreciation of films of an instructional nature such as that dealing with the transference of heat. This special branch of the B.G.C., under the enthusiastic direction of Mr. P. J. Lucas, has now gone a step further in the production of "film strip," the first of which we saw on the screen at Gas Industry House a few days ago. This particular strip, which we hope and believe will be the forerunner of an ever-expanding library, deals with flues for gas appliances in existing buildings, and has been prepared by Mr. R. N. Le Fevre. The whole constitutes an admirable lecture. It should be put to general use throughout the country. We realize the projector supply difficulty operates at the moment, but this can only be a temporary obstacle, and in any case the position can to an extent be circumvented by the loan of projectors. The virtues of the film strip are straightforward and striking. The particular strip of which we are speaking consists of 49 "frames"—simple and most effective diagrams which clinch the "do's and don'ts" of this vital aspect of gas appliance performance and customer satisfaction. Each frame has its appropriate lecture notes, and the strip is of waistcoat pocket dimensions. The frames—the modern counterpart of the bulky lantern slide—can be manipulated with ease and are in foolproof sequence. The strip we have seen is to our mind calculated to raise and maintain the standard of appliance fixing, and its possibilities should be put to good use. It is indication of the scope of this method of teaching by visual aid. Of course, there is an over-riding proviso if the scheme as a whole is to achieve its object. The lecture as a whole, film strip and notes, must be expert and authentic. Careless preparation would defeat benefit. As we have said, however, the scheme offers great possibilities, and individual gas undertakings should interest themselves in it.

BOWING TO THE INEVITABLE

Mr. A. E. Sylvester, Chairman-Designate of the Gas Council to be set up under the Gas Bill, presided last Thursday at what may prove to have been the last annual meeting (reported elsewhere in this issue) of the South Eastern Gas Corporation; for, having "no inside information," he is personally of opinion that vesting date may be April 1, 1949, from which date the Corporation will cease to exist as such. In terms of gas history the South Eastern Corporation is not a very old established concern, but in 16 years it has achieved much in spite of the difficulties which have marked the greater part of its life, and there are good grounds for believing that, given a few more years of freedom it would have made greater strides in the future. "Whatever people's views may be about the nationalization of the gas industry," said Mr. Sylvester, "it is now very nearly a *fait accompli*, and whenever people are faced with an issue that has been settled on constitutional lines they always pull their weight and try to make it work. I know I am expressing the views of my colleagues and the staff of the Corporation and its subsidiaries when I say we shall do whatever we can to ensure that the gas industry in future is as careful and mindful of the needs of the public as it has been in the past." He referred with some regret to the fact that the compensation terms had been settled by one party without reference to the wishes of the other party, but he reminded the stockholders that at a later date they would have the opportunity of appointing whoever they wished to act as their representative and look after their interests as far as he could. The meeting passed a special vote of thanks to the Chairman and Directors, as well as one to the management and staff, on whose behalf Mr. H. A. Probin, General Manager, responded.

ELECTRICITY PEAK DEMANDS

Representatives of a large number of organizations representing non-industrial trade interest—including retail shops, multiple stores, catering and entertainment establishments, banks, insurance companies, and other commercial concerns—and the appropriate trade unions—met the Parliamentary Secretary to the Ministry of Fuel and Power, Mr. Alfred Robens, last Thursday, who invited their co-operation in action by commercial users of electricity to relieve the peak load in the coming winter and so assist in avoiding load shedding. Mr. Robens recalled that last winter industry was asked to reduce its peak demands—which it did by staggering hours and other methods of load spreading—to the extent of up to 33⅓% in certain instances. The reduction to be arrived at next winter had not yet been decided but it was intended that non-industrial consumers should be asked to make the same contribution to the reduction of peak demand as the industrial users. Taking the average of weather for the last four years, the estimate of the shortage of plant for the peak load during the coming winter was 1 mill. kW.

P.R.O.

A recent editorial note in "GAS SERVICE" drew the attention of readers to the apparent rarity in the gas industry of the Public Relations Officer. Our comment in "GAS SERVICE" lightly outlined the qualities of versatility, experience, and so on, necessary for the P.R.O. if he is to gain maturity and recognition. It was suggested that it might well be to the gas industry's benefit if he could enter more into the life of the industry. The kernel of our remarks might be summarized in this fashion: If, at the present time, the P.R.O. is rare in the gas industry, what are his prospects under nationalization? We expected that our comment would meet with response. The doubts expressed in the editorial that the industry is the poorer without the P.R.O. have been confirmed. To judge by the opinions expressed—and one such letter is reproduced in the July issue of "GAS SERVICE"—the vendors of gas are like children crying in the wilderness, and their publicity is lacking in co-ordination. The writer of this particular letter suggests the appointment of a P.R.O. to cover a group of undertakings, unifying their propaganda and splitting the cost. Perhaps, under State "guidance," consideration will be given to such a proposal. We think the gas industry should encourage the P.R.O. It should also be thoughtful in appointing P.R.O.'s.

HOT WATER SUPPLY IN THE HOME

Opening a conference in London on "Research and the Housewife" last Wednesday, Mr. Charles Key, Minister of Works, stated that his Ministry is about to start an investigation designed to establish what are the best living conditions for families in small houses. In a recent research throughout the country, he said, it was found that 44% of houses had no piped water supply and 46% no bathrooms. In 25% had to get hot water from coppers and in 15% had to depend wholly on kettles and saucepans. "We propose," continued Mr. Key, "to build groups of houses on a number of different sites distributed throughout the country, in areas differing not only in climate but in customs and social conditions. These houses will differ in planning, systems of heating, structural features, and equipment generally. They will be occupied by tenants selected from a list of applicants in the vicinity of each house. Special measuring instruments will be used to examine the best systems and appliances."

Stockton-on-Tees Corporation has received sanction to borrow £10,000 and £5,000 for maintenance and servicing respectively in connexion with gas supplies to new housing estates. Sanction has also been received to borrow £4,000 for supplying gas to the North Tees Trading Estate and £6,069 for laying gas mains to the former Le Tourneau factory.

The Minister of Health recently paid an unofficial visit to the St. Pancras Way flats which form the first post-war scheme of the St. Pancras Borough Council. There are 126 flats in all, comprising three and four rooms, and they should be ready by the middle of next month. In each flat there will be an Eagle Sutton coke grate, and points for a gas cooker, gas refrigerator, and sink water heater.

Personal

Mr. J. H. WILKINSON, Assistant to the Engineer and Manager of the Sedgley Gas Department, has been appointed Engineer and Manager of the Portland Gas Department.

* * *

Mr. J. H. GREENACRE, Managing Director, Engineer, and Secretary of the Great Yarmouth Gas Company, is one of four new Justices of the Peace appointed to the Yarmouth Bench. Mr. Greenacre, who is the only son of Mr. H. T. Greenacre, who is also a J.P. and was Mayor in 1928 and 1936, was formerly Engineer of the Mid-Kent Gas Company and was a member of the Yarmouth Town Council from 1943 to 1945.

* * *

Mr. F. E. IBBERSON, Chief Cashier, and Mr H. H. COLLETT, Assistant to the Engineer, are retiring to-day (June 30) from the staff of the Sheffield and District Gas Company, after 50 and 25 years, respectively. Accompanied by their wives, they were the principal guests at a reception and dinner held in their honour at the Royal Victoria Station Hotel on June 28. Mr. Ibberson joined the old Sheffield United Gas Light Company in 1898 and succeeded the late Mr. J. T. Meakin as Chief Cashier in 1935. Mr. Collett entered the gas industry in 1906, when he was appointed Chief Draughtsman to the Sunderland Gas Company, and before he became Chief Superintendent at the Neepsend Works of the Sheffield Gas Company in 1922, he held a number of important and responsible positions, including that of Chief Engineer to the Danish Gas Company, Copenhagen. Mr. Ralph Halkett, General Manager, made presentations to Mr. and Mrs. Ibberson, and Mr. Ralph Halkett, Senior, handed gifts to Mr. and Mrs. Collett.

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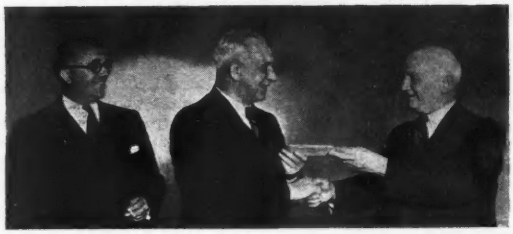
Mr. TOM JORDAN, Sales Superintendent of the Parkinson Stove Co., Ltd., Stechford, Birmingham, recently completed 50 years' service with the Parkinson Group of Companies. Mr. Jordan is pictured receiving a gift at a testimonial dinner held in his honour. The presentation was made by Mr. R. J. Rogers, Chairman of the Parkinson Stove Co., Ltd., and on Mr. Jordan's right is Mr. Lawson Hurdman, Director and General Manager.



Diary

July 2.—**Waverley Association of Gas Managers**: Annual Meeting, Y.M.C.A. Hall, Edinburgh.

July 6.—**National Federation of Gas Coke Associations**: National Technical Committee, Gas Industry House, 2 p.m.

July 6.—**Solid Smokeless Fuels Federation**: Technical Committee, Gas Industry House, 3.30 p.m.

July 12.—**Women's Gas Council**: Executive Committee, Gas Industry House, 1 p.m.

July 13.—**Federation of Gas Employers**: Central Committee, Gas Industry House, 11.30 a.m.

July 13.—**British Gas Council**: Central Board, Gas Industry House, 2.30 p.m.

July 13.—**National Federation of Gas Coke Associations**: General Committee, Gas Industry House, 10 a.m.

July 14.—**Technical Sub-Committee (Domestic Development Committee)**: 10.30 a.m., Gas Industry House.

July 14.—**Domestic Development Committee**: 2 p.m., Gas Industry House.

July 15.—**Solid Smokeless Fuels Federation**: Executive Committee, Dorchester Hotel, Park Lane, 11.30 a.m.

The New Address of the Coal Utilization Joint Council is: 13, Grosvenor Gardens, London, S.W.1; telephone: Victoria 1534.

The New Address of the London Sales Office, Transport and Invoicing, Accounts, and General Departments of Associated Lead Manufacturers, Ltd., is Ibex House, Minories, London, E.C.3; Telephone: Royal 4525. The Purchasing and Solder and Alloys Sales Offices will remain at 14, Finsbury Circus, London, E.C.2.

EXTENSIONS AT BRADFORD GAS-WORKS

The Ministry of Fuel and Power recently authorized a further extension of 3 million cu.ft. per day capacity to the manufacturing plant of the Bradford Gas Department. This will comprise 24 Woodall-Duckham lambent retorts and will be a duplicate of a similar unit previously ordered. The estimated cost of this extension, together with wet and dry purification and other ancillary plant, is £335,170, and the orders for all this plant have now been placed. The following is a summary of the approximate costs of the extensions now ordered:—

Manufacturing Plant, Birkshall Works

	£
C.W.G. plant (2½ million cu.ft. per day) with all ancillary plant and machinery	159,555
Carbonizing plant:	
No. 1 installation, 24 Woodall-Duckham lambent retorts, 3 million cu.ft. per day, with all the ancillary plant and machinery and coke handling plant	391,765
No. 2 installation, 24 Woodall-Duckham lambent retorts, 3 million cu.ft. per day, with all the ancillary plant and machinery	335,170
Coke handling plant	76,441
Gasholders, replacement and enlargement of Nos. 1 and 2	191,400
New compressing plant and high pressure ring main	107,950
Total	£1,262,281

Manufacturing Plant Capacity

	Million cu.ft. gas per week
Coal gas plant:	
Existing carbonizing plant—4 benches Woodall-Duckham continuous vertical retorts	48.3
No. 1 installation—24 Woodall-Duckham lambent retorts	19.5
No. 2 installation—24 Woodall-Duckham lambent retorts	19.5
Total capacity carbonizing plant	87.3
Grid supply—from West Yorkshire Gas Distribution Company	15.0
C.W.G. plant—4 machines	37.0
Total capacity	139.3

The above capacities of carbonizing plant include the normal allowance for scurfing of continuous vertical retorts. The programme provides for all the extensions to be completed and in operation by December, 1951.

News in Brief

The Offices and Works of Ranalah, Ltd., makers of instantaneous gas water heaters, have recently been removed to Burbage, near Hinckley, Leicestershire.

Keighley Corporation Gas Department in the year ended Mar. 31 last had a loss of £24,602, against £1,958 the previous year. Income was £197,786 and expenditure £222,388.

The Chemistry Research Board of the Department of Scientific and Industrial Research published last week their report for 1938-46. It can be obtained from H.M.S.O., price 1s. 3d., postage 2d.

On June 15 Miss Ashworth, Chief Demonstrator of Radiation, Ltd., gave a lecture and cookery demonstration to about 70 members of the Andover Homemakers in the Guildhall. Arrangements were carried out by the Andover Lighting and Power Company.

At the Annual Meeting of the Institution of Heating and Ventilating Engineers, held at Bournemouth on June 21 to 23, the President, Mr. L. Copeland Watts, announced that, in consultation with the Chief Inspector of Factories, it had been decided, and the Institution had agreed, to set up a Committee to investigate atmospheric conditions in works. The aim was to ensure maximum comfort for workers, and to minimize risks of accident and injury to health.

The American Bureau of Mines reports that, during 1947, the production of coke from coal gas retorts declined 22% from the 1946 level, and totalled 664,576 tons. This decrease, in spite of heavy industrial and domestic demands for gas, was due mainly to the substitution of other types of gas at many installations, such as water gas, natural gas, and liquified petroleum gas. This replacement of coal gas resulted in the dismantling of 729 retorts during the past year, the remaining number of all types of retorts at the end of the year being 1,419. These have a total carbonizing capacity of 1,273,100 net tons (2,000 lb.) of coal per year, a decrease of 21% from 1946, and 33% less than in 1942, when annual statistics for coal gas retorts were first collected.

POLITICS AND THE BRITISH GAS COUNCIL

THE NATIONALIZATION ISSUE

THE Third General Meeting—will there be a fourth?—of the British Gas Council was held at Gas Industry House, on June 23. Colonel **Harold C. Smith,** C.B.E., D.L., J.P., the Chairman, presided. He asked the meeting formally to adopt the minutes of the 34th Annual General Meeting of the British Commercial Gas Association, of the 25th Annual General Meeting of the National Gas Council, and of the 2nd Ordinary General Meeting of the British Gas Council, held on June 30, 1947. The Minutes were confirmed.

The B.G.C.—1947-48

Colonel Smith, on behalf of the Central Board, suggested that the Annual Report of the B.G.C. presented a comprehensive review of the year's work of the Board. In addition to reporting on the year's work every endeavour, he said, had been made to bring the report up to date—an obviously desirable feature in current circumstances.

Colonel **Smith** said: " The Council now consists of 655 company and 240 local authority members. All are paying the full rate of subscription and represent 95% of the total gas sold in the United Kingdom. Our income during the year amounted to £209,334 compared with £198,363 for the year 1946-47. The income for 1947-48 included £19,377 collected on behalf of the Federation of Gas Employers, £25,000 which was allocated to the Gas Research Board, and £10,500 which was allocated to the Institution of Gas Engineers on account of work which the Institution carries out on behalf of the industry.

" Despite the increase in costs in all directions the annual subscription remains at its pre-war level per mill. cu.ft., the difference being that this is now levied on the basis of gas sold instead of gas made and all members pay at the full rate. We could not conduct publicity campaigns on anything like the pre-war scale on our present income, but the Central Board has decided not to recommend any increase in the subscription rate for this purpose at the present time.

" The items in the report which will naturally be of most interest are those dealing with the nationalization of the gas industry. Many amendments were made in the Bill with consequent improvement in it as the result of action taken by the Board. It is a matter of some concern that we were not successful in securing an amendment in the House of Commons which would have provided that the employees of the national associations of the gas industry should be treated as if they were in the service of gas undertakings for purposes of pension rights and compensation for loss of office or diminution of emoluments. The difficulties in the way of making suitable provision are readily understood, but it was satisfactory to see that the Government representatives were fully in sympathy with the proposals, and I hope that if these are not given effect in the Act the Board will in due course be able to make suggestions for making suitable provision outside the Act.

A Team Effort

" We have been served loyally by a hard working and efficient team of officers and staff; and the least we can do is to see that they are treated properly. To our General Manager, Mr. Alexander, and his staff, thanks are specially due for their work during this strenuous year. I pay tribute particularly to the work of Mr. Alexander and Mr. Stemp for the valuable assistance they have given the Board in its efforts to obtain improving amendments in the Gas Bill.

" The Gas Bill has passed its Second Reading in the House of Lords. All gas men must be turning their thoughts towards the future and must be wondering how they are likely to be affected by the reorganization which is planned for the industry. I think some satisfaction can be derived from the fact that the Gas Bill as drawn and amended does allow generally for the type of organization which was suggested in the Council's memorandum on ' The Organization and Regional Boundaries of a Nationalized Gas Industry.' The arguments in support of decentralization below the level of Area Boards were set out in that memorandum, and under the Bill it is within the power of these Boards to take such action as will give effect to that decentralization which we believe to be essential to the satisfactory functioning of the gas industry in the future.

" It is of great importance that the change in ownership of the industry should not result in undue interference with those who are ultimately responsible for producing gas and dealing with its consumers. The majority of the present owners of the industry, as represented by the British Gas Council, expressed themselves as being opposed to the nationalization of the industry. With the tradition of well over 100 years of gas service behind them, however, they also expressed themselves as being willing to co-operate with the responsible Minister in replanning the industry. I am sure that if both Houses of Parliament finally decide that the industry shall be nationalized, those employed in it will see that the great progress it had already made will be continued and developed to the increasing benefit of the community."

Mr. **T. Brown** (South Suburban Gas Company) seconded the adoption of the report and accounts.

Mr. **James Carr** (Bristol) said that thanks were due to Mr. Alexander and his staff and all the various Committees who had done admirable work in their various spheres. Mr. Alexander had been untiring in his efforts. In regard to the Gas Bill, without the representations made by the British Gas Council many of the amendments would not have gone through.

In the section of the report dealing with " Finance and Establishment," Mr. Carr said he was struck with the figures relating to publicity. " We have cut down our publicity services to a gross figure of £121,484, and the actual net expenditure on publicity is approximately £80,491. Many of us seem to think that when we are nationalized we shall not need to put our goods in the shop window, but I am not one who thinks in that way. Successive Governments have favoured the electrical industry and we shall still find it a difficult job to sell our gas to the various municipalities for their housing schemes. I think £80,000 for publicity for an industry of our size is a very small amount, and I do not think that in the years to come we shall get very far if we do not spend considerably more on publicity as and when the time is opportune."

In the future, Mr. Carr added, the industry would require the full help of the British Gas Council.

He continued: " Under the heading of ' Plant and Materials ' there is a paragraph about spent oxide. I do not know how we are proposing to handle this question of oxide when we are a nationalized industry, but there is a glorious opportunity for the 12 Areas to organize this thing in a big way. At present we are buying pettifogging amounts of oxide, and in trying to dispose of the spent oxide we find the chemical industry playing us off one against another. In many cases where we are near the ports we should be able to organize the importation of Dutch bog ore, not only for our own undertakings but for many others round about. Correspondingly it should be possible to find Continental markets for our spent oxide.

The Women's Gas Council

" Under the heading of ' Home Service ' I welcome the national conference of home service advisers; I think that will do a great deal of good. With regard to the Women's Gas Council—I may as well be blunt—I do not think much of it, and I never have done. I think that a great deal more valuable publicity can be achieved through the Home Service Section in preference to the Women's Gas Council."

Mr. Carr said that he was glad reference had been made to the Salesmen's Circles. He felt they required very much more support from the senior members of the undertakings. The seniors did not provide sufficient opportunity for the interchange of sales tactics between one undertaking and another. Yet, such interchange was essential for a well conducted sales programme. The Circles met two or three times a year. In their various areas and zones they should, as seniors, give greater facilities for the salesmen to meet more frequently and exchange their views.

Steel Allocation

Mr. **J. Hunter Rioch** (Cambridge): " I put in a special plea for the establishment of a satisfactory basis of settlement of short-weight difficulties in regard to coal. It is high time that the two nationalized industries concerned—coal and transport—should make up their minds as to who is to be responsible for short weights in the future. It is not reasonable that these should continue to be the responsibility of the purchaser. I think the Council are to be congratulated on the work they have done to secure greatly increased allocations of iron and steel for the gas industry, although the quantity is still below the pre-war figure. I suggest that the Council will do an even greater service if it can simplify the means of placing and acceptance of orders for tubing so that vital work on the supply side of the industry can be planned with more certainty. There is a serious sense of frustration at the present time because, although allocations of steel have been increased, one has the impression that manufacturers do not have the material to meet the allocation. This appears to indicate the need for a closer tying up of the industry's requirements with the manufacturers' productive capacity for specific categories of steel, especially tubing. Here also is an opportunity for the Council to relieve undertakings of a great deal of uncertainty, anxiety, and unnecessary administrative work in obtaining supplies."

Commander **Hyde C. Burton** suggested that the policy of the B.G.C. had resulted in the surrender of the gas industry. He went on: " I venture to say that never has the policy of appeasement paid

poorer dividends than the policy pursued by the British Gas Council for the last two years. We are told that a memorandum was submitted without prejudice to the Council's opposition to nationalization, for the accomplishment of which the Council was not to be regarded as having submitted a plan. We are told the details of the plan which was in fact submitted, defining in detail the boundaries and characteristics of 13 Regions. The memorandum dealt with the 'three decker' structure of the visualized operational organization. It was strongly recommended that there should be District Management Groups. It was strongly recommended that so far as the national and regional boards were concerned they should be mainly if not wholly composed of men skilled and experienced in the affairs of the gas industry. We are told that the Government more or less completely rejects everything put forward by the British Gas Council except that it accepts in principle the suggested operational organization in the 12 or 13 regions. How much better it would have been to have fought hard for a free gas industry. . . . I want to emphasize that instead of making it easy for the Government to nationalize the industry the British Gas Council would have done a great deal better in the long run to fight to the death. The compensation which it is proposed to pay to stockholders and to the municipal owners is little short of robbery."

Wearing the mantle of the prophet, Commander Hyde Burton said in disgust: "*Sic transit gloria mundi.*"

Commander Hyde Burton had no seconder to his motion that certain passages in the Report and Accounts should not be adopted.

Work Accomplished

Colonel **Smith**: "The work which the Council has got through this year is enormous, and we could not have been better served than we have been by the General Manager and his staff. I have picked out Mr. Alexander more particularly because he has done a great job of work. It has been suggested that we have completely surrendered, but I would like to clear your minds on that matter if any clearing of the mind is necessary. I think it must have been apparent to everyone who saw the Gas Bill fought in Parliament that there was no surrender. There has not been such opposition to any other Bill in my memory."

Mr. **A. W. Lee** (Birmingham): "We are served by a loyal and energetic staff. The year has been an extraordinary one, and I should like to add my tribute to everyone who has served the Council during this trying period."

The resolution was carried with acclamation.

Mr. **J. R. W. Alexander**: "We are grateful to have had the opportunity of playing a modest part in the affairs of the gas industry during these critical times, and it is gratifying to know that we have carried out our duties to your satisfaction. I have been happy to assist the Chairmand and the various Committees in dealing with the affairs of the Council and, in particular, in fighting nationalization and endeavouring to get something satisfactory for the future which concerns every one of us. . . . During the year it has been our privilege as officers to have the support of an Executive Committee which is quick to praise when things go well, and indulgent in adversity. In nationalization matters, we have had the help of the Nationalization Committee, consisting of Colonel Smith (until his appointment as Deputy Chairman designate of the Gas Council), Dr. E. V. Evans (who succeeded him), Colonel W. M. Carr, and Mr. Michael Milne-Watson—and not once during these many months have we turned in vain either to the Committee as a body or to individual members for help and guidance. Innumerable members have given us assistance in dealing with the affairs of the Council generally and on nationalization in particular. Their criticisms and observations have been extremely helpful, and always carefully considered. Neither should we fail to acknowledge the admirable co-operation we have received from the able officials of the Ministry of Fuel and Power. I am under a great debt of gratitude personally to the staff of the British Gas Council, all of whom have endeavoured to play their part in their respective spheres."

The names of the members of the Central Board have already been published and will be found on the "Addenda and Corrigenda" page of the "GAS JOURNAL" Calendar and Directory for 1948.

The Executive Committee is constituted as follows:

R. J. Auckland (Cardiff), Wales and Monmouthshire.
T. Brown (South Suburban), London.
Colonel W. Moncrieff Carr (Manchester), North Western.
C. H. Chester (Swindon), Southern.
E. Crowther (Newcastle), Northern.
G. E. Currier (Bradford), Yorkshire.
Dr. E. V. Evans (South Metropolitan), London.
D. Fulton (Helensburgh), Scottish.
Lieut. Colonel J. Kennington (Grimsby), Eastern.
A. W. Lee (Birmingham), Midland.
M. Milne-Watson (Gas Light and Coke Company), London.
C. S. Shapley (Leeds), Yorkshire.
Colonel H. C. Smith (Tottenham), London (*Chairman*).
R. C. Taylor (Torquay), South Western.
S. E. Whitehead (Southampton), Southern.

King's Manual*

A Review by JOHN T. HAYNES, M.I.C.E., Engineer and General Manager, Bournemouth Gas and Water Company

For over 40 years students and their instructors in gas engineering have lacked a good textbook such as is available in nearly every other branch of industry. Older gas engineers can recall the veneration in which they held such works as "King's Treatise—on the Science and Practice of the Manufacture and Distribution of Coal Gas." Few of our contemporaries have even seen these books; fewer still know that they were inspired by an earlier Editor of the "GAS JOURNAL." It is fitting then that the "GAS JOURNAL" of to-day should be instrumental in producing, with the encouragement of the Institution of Gas Engineers, the first part of a real textbook of our time covering the whole range of gas engineering practice.

"King's Manual of Gas Manufacture" (Vol. 1) now published deals with the subject up to the retort house governor, and is an authoritative work which will be of value to every gas engineering student—even the distribution man ought to know something of how gas is made. It will undoubtedly find a place on the bookshelves of every gas undertaking in the country, as well as on the desk of every young man striving to make himself more efficient in the industry.

The publishers are to be congratulated on their choice of authors—each in his own line is a recognized authority. Who is better qualified to speak on the practice and application of coke ovens than Dr. Foxwell? What Dr. Dent does not know about the possibilities of water gas plants is only for future investigation; while the name Tomlinson is almost a household world in the realm of vertical retorts and handling plants. Surely no student could ask for more knowledgeable or better guides to his course of studies.

"King's Manual" is designated a students' textbook, and it is interesting to consider how fully it has achieved its object—and in what respects it falls short of the ideal. A textbook should provide the subject-matter on which instructors can base their lectures and at the same time enable the student to fill in the blanks in his own notes of the lectures. Since the object of education is to teach a student to think for himself, a textbook should indicate the reasons which have led to the development of new designs, and point the direction in which further development may take place. In this respect the chapters on Handling Plants, Coke Ovens, and Water Gas Plants are outstanding examples of good presentation. Throughout the book the factual parts generally are clear and concise; but in other chapters the reasoning and deductions leave too much to the imagination of a student as yet in the early stages of his training. The reproductions of the drawings and diagrams are not always as good as one might expect and in some instances the annotation and references are so indistinct as to cause some doubt in the mind of the reader.

One must remember that since no organic chemistry is included in the Institution's Syllabus of ancillary subjects the student may find difficulty in following the chemistry of Chapter 1, and it is suggested that the chemical reactions in the retort might be set out in a more simplified form.

There is no reference to the civil and mechanical engineering problems which face a gas engineer at every turn and a knowledge of which is required of every candidate in the examinations of the Institution. The student's attention might with advantage be drawn to these in the descriptions of plant in the text. The solutions to the problems, however, will have been dealt with in the ancillary subjects and are rightly omitted from this textbook.

It is inevitable that a textbook for an industry as progressive as the gas industry must quickly become out of date and possibly require a supplementary edition every two or three years. It is to be hoped, therefore, that "King's Manual" will be so treated, in order that obvious omissions can be made good from time to time. For example, skip hoists and aerial ropeways for the handling of material have been in use for many years but are not even mentioned, and the recent development in the use of mechanical hot-gas producers for vertical retort installations ought to have been included in this edition.

It is the business of a reviewer to criticize as well as praise, and the writer has endeavoured to examine this new textbook from the angles of both the student and the instructor. As a result he has no hesitation in recommending "King's Manual" as a very useful addition to the industry's library, but one which, in parts, is insufficient for self-education without the guidance of an instructor.

The Ad-Hoc Committee of the Institution under the able guidance first of Sir Frederick West, K.B.E., and later of Mr. S. E. Whitehead, should welcome the publication; and the "GAS JOURNAL" has every reason to be proud of this first result of their efforts. When succeeding volumes are produced to cover the whole of the gas engineering student's requirements, every member of this great industry will be grateful that at last we have an up-to-date and useful textbook to guide the training of those who will have to carry on where we older ones leave off.

* "King's Manual" of Gas Manufacture, Vol. 1; Walter King Ltd, 11, Bolt Court, Fleet Street, London, E.C. 4;—302 pp.; 167 figs.; price 22/6 post free.

NATIONALIZATION AND COKE DEVELOPMENT

LANCASHIRE AND DISTRICT COKE ASSOCIATION

THE annual meeting and luncheon of the Lancashire and District Coke Association was held at the Grand Hotel, Manchester, on June 17, Mr. J. D. Ashworth, Chairman of the Association, being in the chair.

The **Chairman,** in moving the adoption of the Central Committee's report, said the total tonnage of coke produced for sale was 1,384,906 tons. For 1942-43 the corresponding tonnage was 1,147,803 tons. During the year authorization was received to increase the works price of coke by 9s. 4d. per ton for advances in the pit-head price of coal, and 1s. 6d. per ton in some parts of the Association was granted for increase in railway rates and 8d. per ton in others. This variation was found necessary owing to the very big difference which the increase of 24% in railway rates would make in the delivered price of coals. The total increase in coke prices since September, 1939, was between 38s. and 39s. At one time the policy of the Ministry was to authorize an increase in coke prices 50% above the increase in coal prices, and this policy had undoubtedly thrown coal and coke prices out of line with what they were pre-war.

Coke Price Structure

The Solid Smokeless Fuels Federation had decided to set up a Price Structure Committee in collaboration with the National Coal Board, to work towards the establishment of a properly co-ordinated price policy and standard conditions of sale for solid fuels. It was obvious that sooner or later this work would have to be undertaken and they would have to get down to the problem of drawing up new price schedules. Existing price schedules for all stations and places within the area of the Association had only operated as minimum price schedules, and the time had arrived when they must have fixed prices for all stations. With the completion of the agreement with the distributors, this was a matter which would have to be undertaken urgently. In the meantime the Price Structure Committee had been commissioned to consider the relative values of solid smokeless fuels, and the technical side of the Committee was engaged on that work. The commercial side was engaged on a factual survey. District Committees had been set up of representatives of the gas coke industry, hard coke, and anthracite and dry steam coals. The District Committee in the area has almost completed the formidable task of the factual survey, giving information as to the pre-war price relationship between the various solid smokeless fuels, and information as to price zones which could be built up in each Association area. For this purpose it had been suggested that they could reasonably follow the area of the three groups with the addition of an extra zone for North Wales. Information was being given as to the approximate tonnage of each of the solid smokeless fuels in each area.

When this information was completed in all districts it would be passed to the National Co-ordinating Panel for consideration, together with the report from the Technical Panel on the technical evaluation of the fuels.

The Supply Position

Last year there was a continual shortage of coke supplies and, owing to that shortage, applications were being received in increasing numbers for the conversion of coke burning plant to oil burning and, owing to the shortage of coke, it was only in exceptional cases that they could resist such applications. The situation to-day was very different. Gas coke supplies were now over plentiful and members were becoming alarmed by their stocks at the works. The most alarming feature was that normally at this time of the year coke was being withdrawn from stock, but at present coke was going down to an ever increasing extent. The reason for this changed position was, no doubt, the cessation of water gas production and the exceptionally mild winter. To some extent the price of fuel, together with the fact that less money was being spent by the public, was partly responsible for the present stocking position. This time last year the job was to programme the available supplies as equitably as possible; to-day the reverse was the position and the available additional deliveries in the shape of export, &c., was being programmed as equitably as possible in accordance with the stocks held at each works, the stocking capacity, and any other relevant factors. The Coke Equalization Pool had operated throughout the year.

The Bill to nationalize the gas industry would, no doubt, be passed shortly, and if all went according to plan the industry would have come under public ownership by the end of the present financial year of the Association. It was possible, therefore, that this would be the last annual meeting of the Association under its present constitution.

Luncheon Speeches

The meeting was followed by the annual luncheon at which Mr. **James MacLusky,** Chairman of the Yorkshire Gas Coke Association and **President of the Manchester District Association of Gas Engineers,** proposed the toast of " The Lancashire and District Coke Association." In doing so, he said the Lancashire Association had over twice the membership of the Yorkshire organization, though it would be wrong to admit that size alone was a criterion of efficiency.

The Coke Associations had undertaken a long series of negotiations in an endeavour to complete the co-ordination of gas and hard coke prices, and to form Coke Distributors' Branches to enablede livery prices to be fixed and maintained. The nationalization of the coal industry, resulting in the nationalization also of a large section of the hard coke production industry, had led to the temporary abandonment of these negotiations. Hesitation on the part of distributors, not the largest or most farseeing, had also caused delay, but now that nationalization of the gas industry was approaching he thought it could be said that all distributors recognized that a strong organization was necessary in order to avoid chaos.

The work done by the Coke Associations had been of value, and the Lancashire Association was one of the best of its kind in the country. The work which had been done in the fuel testing of appliances, in an attempt to co-ordinate price structure, had taken up a great amount of time on the part of Mr. Ashworth, the Chairman of the Lancashire organization, the Deputy Chairman, Mr. S. G. Deavin, and the Secretary, Mr. W. Stephenson, as well as members of the Management Committee. Mr. Ashworth's services were esteemed very highly by the National Federation.

The **Chairman,** in responding to the toast, said that after nationalization the gas industry would still have the valuable product of coke. There was no doubt as to the influence of coke in the cheapening of gas. The coke industry was developing well now that the war was over, and with further plant and increased technical staffs smokeless fuel could be utilized by the most suitable method.

Coke Associations were formed with one object, namely, the utilization of coke. A co-ordinated method of trading it would be all to the good. There had been a gradual tendency in that direction until nowadays it was in process of becoming an established fact. In order to pay the necessary wages there must be some safeguard with regard to selling the product at the highest possible price compatible with the highest possible value to the consumer.

He was grateful to Mr. MacLusky for his remarks with respect to the national bodies. He (the Chairman) along with Mr. Deavin were representatives on the national body, and he could assure everyone that they received very good information and advice from it.

The Guests

Mr. **R. J. Restall,** Engineer and General Manager of the Stalybridge Gas Department, proposed the toast of " The Guests," in the absence of Mr. R. L. Greaves, unfortunately suffering from a severe cold. Mr. Restall referred especially to the presence of Mr. J. O. Cooke, Mr. MacLusky, Miss C. A. Wooster, M.B.E., General Secretary of the London and Counties Coke Association and Secretary of the National Federation of Gas Coke Associations, and Mr. C. L. Davies, Secretary of the Yorkshire Gas Coke Association.

Mr. **J. O. Cooke,** Assistant Director of Coke (Gas), Technical Adviser, National Federation of Gas Coke Associations, and General Manager, London Counties Coke Association, responding to the toast, said coke programming was a thankless and onerous task. A conservative estimate of its costs was 1d. a ton of all coal produced for sale, which was something of the order of £40,000 a year. The gas industry shouldered this job and paid for it, and in doing so rendered signal service to the country.

" The Ministry's White Paper informs us," said Mr. Cooke, " that 1948 is a year of transition. It certainly seems to be for the gas industry. Nationalization is almost on us, whether we like it or not. We must remember we are the servants of the gas industry and that we have a great tradition. No matter what our political views may be we have a duty to the industry. Governments will come and go, but the gas industry will go on. The appointment of Mr. Sylvester and Colonel Smith—two old leaders of the Coke Associations—one as Chairman and the other as Deputy Chairman of the Gas Council—has heartened us all. It is a cause for universal satisfaction, and had given the industry confidence at a time when it was needed."

Co-Ordination of Fuel Industries

The re-organization under public ownership of the gas, electric, and coal industries, and the declared intention of the Government to establish machinery for the co-ordination of the three industries, brought into being a new picture. It was a very different picture from that envisaged by the Coke Associations in their post-war plans for future coke development. Nevertheless, despite the changed circumstances and the time which had elapsed since the issue of the Federation Report, the findings in regard to coke development, utilization, and marketing, were still fundamentally sound in principle and in detail, and were directly applicable to present-day conditions in gas coke markets.

The economic plight of the country and the completely unbalanced pattern of fuel supply seemed to add new urgency to the need for vigorous action along the lines recommended. Centralization had been forced on to their competitors and they were already at work on a national scale. It would be idle speculation to make any definite assumptions as to the type of organization that would be developed by the new Gas Council and the boards in the various areas, but he believed the structure outlined in the Gas Bill was specially well suited to bring into being quickly the type of national and regional machinery suggested for dealing with coke in the Federation report.

A Major Obstacle

The question of coke quality was the major obstacle both to the substitution of gas coke for other fuels and to export, and was the keystone to success until normal conditions return. Recent pronouncements of both the Coal Board and the Ministry were disquieting. We could not afford to wait for coal quality to improve. Was everyone satisfied they were doing everything possible at this moment to improve and to maintain uniformity, quality, and sizing ?

Coke prices were high and the revenue was important to industry. There was much talk of fuel economy and of making the most of our coal resources and our present limited coal production. We must not forget that as an industry we marketed two therms of coke for every therm sold as gas.

Mr. **S. G. Deavin,** Secretary and Accountant, Preston Gas Company, proposed the toast of " The Secretary and Staff." Throughout his connexion with the Lancashire and District Coke Association, he said, Mr. Stephenson had sought to sustain the interests of its individual members so long as they did not conflict with those of the whole of the area. Mr. Deavin also mentioned the good work done by the staff, and, in particular, by Mr. F. Gorton and Miss L. Patrick, who had been most loyal and efficient servants.

Mr. **W. Stephenson,** responding, said it was more than probable that the present luncheon would be the last of such social functions. He therefore reviewed at some length the work of the Association since its inception.

Not an Easy Wicket

A statement had been made, he said, that the Association, throughout its life, had been batting on an easy wicket, but with that statement he would never agree. There had not been one single year when difficulties had not been experienced either through a surplus of coke, or a shortage of gas coke, furnace coke, or foundry coke. It had not been easy to overcome those difficulties. What he would venture to say was that the members,owing to the existence of the Association, had had a comparatively free time from anxiety during either of those periods. Nowadays there was a surplus, and practically every member had a large stock of coke which had not been possessed for some years previously, so that the task of its disposal would appear to be mountainous. Due to existing controls, and necessary programming, members must look to the Association for its disposal. A similar stocking position existed in 1943-44, yet those stocks disappeared in a short time. His own opinion was that a similar happening would occur again.

There had been no export for a considerable number of years, and it would take some time before an export programme could become effective. In 1943-44 there was a programme for the substitution of coke for coal in industry. During the morning's meeting Mr. Cooke had explained that there was a substitution programme now being put into operation, and the National Coal Board had asked its Programming Committee on Substitution to take steps with regard to substituting large coal for a lower grade quality coal or gas coke.

In conclusion, Mr. Stephenson thanked the Chairman for the assistance he had given him during all his years of office, and for the advice he had tendered for the purpose of solving any of the difficult problems with which he had been confronted. He also thanked the honorary officers, the price advisers, and their secretaries. They had all rendered invaluable assistance to the Association.

YORKSHIRE GAS COKE ASSOCIATION

COKE STOCKS MOUNTING : A PASSING PHASE

" COMPETITORS of the coke industry, with integration and centralization forced on them, are now known to be at work, on a national scale, preparing a new price structure and looking with greedy eyes on coke markets," declared Mr. **J. O. Cooke,** Assistant Director of Coke (Gas) to the Ministry of Fuel and Power, at Leeds on June 22. He was speaking at the annual luncheon of the Yorkshire Gas Coke Association at the Guildford Hotel.

Stating that coke programming, " a necessary evil," was to remain for some time, Mr. Cooke said that its cost has been estimated at a penny a ton on all coke produced for sale, or £40,000 a year. The gas industry was now nearing the end of a chapter, illuminated by enterprise and individuality. No matter what were their political views, they had a duty to the industry.

" I venture to suggest," Mr. Cooke continued, " that of all the nationalized industries the gas industry, so frequently referred to in House of Commons debates as the Cinderella of the fuel industries, will be less disturbed administratively, commercially, and technically than either of her Ugly Sisters." Reorganization under public ownership of the gas, electrical, and coal industries brought into being a picture very different from that envisaged by Coke Associations in their post-war plans.

" Nevertheless, I am quite sure that the findings of the Federation Report in regard to coke development, utilization, and marketing are fundamentally sound and still directly applicable to conditions in gas coke markets," said Mr. Cooke. " It would be idle speculation to make any assumption as to the organization that will be brought into being by the Gas Council and Area Boards. But I am of the opinion that the structure outlined in the Gas Bill is particularly well suited to bringing into being quickly the type of machinery recommended for coke by the Federation.

" Nationalization is not going to cure a product of the weakness of having to be sold. This year gas coke availability has returned to normal. The world oil position has forced the Government to a more rational outlook on carburetted water gas. After the mild weather of last winter, gas coke stocks are mounting and people are worried stiff about what they are going to do with their coke. I know there are difficulties of inadequate stocking grounds and coke quality, but I am equally certain that something must be done in these directions as a long term policy. We must make a reasonably good product of uniform quality, develop coke markets and make provision to hold our coke and wait for markets. Otherwise we are going to be at the mercy of the buyer and the season.

" I am sure that our present position is only a passing phase. If we can only hold out for a few weeks all will be well. Our budgets show that, taking the country as a whole, there is no surplus of gas coke. If we get a normal winter, supplies will be tight before next spring."

Mr. Cooke thought the moral of the present embarrasments was that they were not ready for a return to normal conditions. Those difficulties should be heeded for there might not be a further warning. To-day there was a European shortage of hard coke and it was possible to market a surplus there. But for some time to come, perhaps a decade, there was unlikely to be enough iron and steel in this country or Europe. Hard coke requirements were at a higher level than the industry's capacity. To meet them, substantial switches were being made in non-iron and steel usages from hard coke to gas coke. Some cokes produced by gas-works were even going direct to blast furnaces.

Movement of solid fuels between countries in Europe was programmed at quarterly meetings of the Coal Committee of the Economic Commission for Europe, working from Geneva. Britain's gas coke surplus was now included in the fuels parcelled out at Geneva and arrangements made for the gas industry to be represented through the Coke Directorate.

Mr. **Arnold Marsh,** General Secretary of the National Smoke Abatement Society, referring to the old fallacy that " where there's muck there's brass," said the truth was that every smoky chimney was a sign of hard-won coal being thrown away. " Each year 2,500,000 tons is lost as visible smoke," he said, " while there are even more serious losses in the form of invisible combustible gas equal to at least 7,500,000 tons. Is it not time that the miners rose in their wrath to protest against this immense waste of their labour ? "

The Society's proposals were not just theory, Mr. Marsh added. In three major American cities—St. Louis, Pittsburgh, and Cincinati—the use of bituminous fuel was prohibited except in approved appliances that burned it smokelessly. He was looking to the time when it would be a crime in this country to burn bituminous coal. He realized that there was a difficulty in persuading domestic consumers to switch to smokeless fuel. But the better the quality of that fuel the easier the job would be. He wondered if coke could not be graded, say, five-star, four-star, three-star, and so on, to convince the public that what they were buying was something special.

Mr. **James MacLusky,** Chairman of the Association, who presided, said that District Associations were now carrying out tests of new smokeless fuel appliances under home conditions, recognizing that needs and usage varied in different parts of the country. " While we join in assisting inland and export sales," he said, " we never forget it is our duty to encourage the sale of coke for domestic purposes. Between the two wars great steps were made in convincing local authorities that smokeless fuel should be used on housing estates, and special grates were installed in which coke could be burned. But we found that lack of storage space and interest on the part of the tenants resulted in coal being burned in those grates. The Government are now showing some interest in implementing the Simon Report. I suggest that perhaps, in future, they will consider taxing or increasing

the price of raw bituminous coal to subsidize or increase the use of smokeless fuel."

A toast to the guests was proposed by Mr. **Norman Hudson**, Deputy Chairman of the Association, and special tribute was paid to the work of the Secretary, Mr. C. L. Davies.

Those present included Miss C. A. Wooster (Secretary of the National Federation of Gas Coke Associations), Professor A. L. Roberts (Livesey Professor in the Department of Coal Gas and Fuel Industries at Leeds University), Dr. I. G. Davies (Medical Officer of Health for Leeds), Mr. J. D. Ashworth (Chairman of the Lancashire and District Coke Association), Mr. W Stephenson (Secretary of the Lancashire and District Coke Association), Mr. B. F. Browne (Regional Gas Officer to the Ministry of Fuel and Power, Leeds), Mr. J. H. R. Corner (Regional Coal Officer to the Ministry of Fuel and Power, Leeds), Mr. C. W. Peel (Assistant Regional Coal Officer to the Ministry of Fuel and Power, Leeds), Mr. L. Moore (President of the Yorkshire Federation of Coal Merchants' Associations), Mr. R. Johnson (Chairman of the Distributors' Central Committee, Yorkshire Gas Coke Association Distributors' Branch), Mr. J. Woodhouse (National Coal Board Marketing Department, Sheffield), and Mr. N. Kirkman (Starkie and Naylor, auditors).

THE GERMAN GAS ASSOCIATION

The German Association of Gas and Water Engineers held its second annual meeting since the resumption of its work, in Dusseldorf from May 24-26. The first day was devoted to business, and the following are some items from the report for 1947.

Although the Association is permitted as yet only in the British Zone, its technical work has extended further. Individuals and industrial firms in the south of Germany have, with permission of the competent authorities, become members of the Association. Requests for papers of the Association come from all parts of Germany.

Technical Reports.—The Military Government and German authorities have consulted the Association on many occasions. A long list of subjects dealt with follows in the report. Special mention is made of the formation of an advice bureau for questions concerning the influence of electricity on underground pipes. Early in 1947, the authorities laid down that all gas-works in the British Zone had to conform to a heating standard, and the Association was given the task of examining works and reporting on heating conditions. In many cases these reports served as grounds for applying for extensions, and coal supplies were often improved.

Publications.—Several important pieces of work of the Association were published for the first time. "Technical Instructions and Guiding Lines for Low Pressure Gas Installations in Buildings and on Estates" was reprinted in 1947 to meet the urgent demand for this work owing to the reconstruction of cities. Other works were reprinted and revised.

Conferences.—The first annual meeting, held in Bielefeld in 1947, was visited by well over 300 people. Since then, the Executive met three times, and there were numerous meetings of study- and working-groups where purely technical papers were received.

Technical Training.—Apart from above-mentioned meetings which, in a way, furthered technical education, specific gas training courses, covering the whole subject, were held at Essen, Rendsburg, and Kiel. There were also courses for allied subjects. The first post-war course for gasfitters was held at the State Building College, Cologne. Members of the Association lectured during courses organized at individual gas-works. Contact has been made with the competent authorities, with a view to instruction at high schools and technical schools.

Personnel.—The Association has helped to cope with the problem of skilled labour shortage. In co-operation with all interested parties the Association endeavoured to place trained personnel in vacant positions, to find a sufficient number of apprentices for works, and to ensure succession of skilled labour by emphasizing the need for training facilities at all works. Co-operation with other technical bodies continued satisfactorily. Technical news was exchanged with associations in the U.S. and French Zones of Germany, and the Association was represented at an interzonal conference. Members read papers to the Hessian Association of Electrical, Gas, and Water Engineers, and frequently contributed articles to "G.W.F." The traditional training and research institutes at Essen and Karlsruhe, as well as the younger Fuel Institute at the University of Cologne, co-operated closely with the Association. Interest in technical matters will undoubtedly provide a connexion with foreign countries, and, partly due to personal contacts, relations were resumed with America, Austria, England, Holland, Sweden, and Switzerland. Special thanks go out to those countries who have helped to build up again the library of the Association. The re-establishment of relations, in the technical sphere, with foreign countries—a task with which the Association will continue to concern itself—is a fundamental contribution to the peaceful reconstruction of the world.

GAS AT AGRICULTURAL SHOWS

The gas industry has been taking a worthy part in agricultural shows this summer, two notable examples being illustrated below. The Cheltenham and District Gas Company's display at the Three Counties Show was a big success, and congratulations were received from many quarters. Next week will see another outstanding effort at the Royal Show at York.

It is 100 years since the Royal Show first visited York, and this year the Knavesmire, a 100-acre site, will be utilized for its presentation on July 6, 7, 8 and 9. The gas industry will be well represented by the York, Harrogate, and District Group of Gas Companies. The main theme will be the fuel services available throughout the 600 sq. miles served by this group of gas companies. The Royal Show is of more than local interest and visitors will be coming from overseas and from all parts of the Kingdom.

The York-Harrogate stand, the display units of which have been prepared in their own publicity and display department, will feature not only the domestic use of gas, but also agricultural and industrial application. Scale models of industrial installations have been secured from a number of sources.

Two examples of the approach of gas to agriculture. On the left is the stand of the York, Harrogate, and District Group of Gas Companies at the Otley Agricultural Show, and on the right is the exhibit of the Cheltenham and District Gas Company at the Three Counties Agricultural Show at Staverton Airport, on the main road between Gloucester and Cheltenham. Many orders and enquiries resulted from these displays.

The Institution of Civil Engineers will be the headquarters of the Fourth Plenary World Power Conference, which will be held in July, 1950. The theme of the conference has been approved. It will be: World energy resources and the production of power.

GAS IN FRANCE

IT is interesting to note with what vigour the professional associations are working in the nationalized gas industry of France. "Gas Week" of April 27-30, the 22nd of these events (the first was held in 1921), was attended by 250 engineers from every part of the country, and the current *Journal des Usines à Gaz* contains abstracts of eight papers or lectures then presented. At the Gas Congress this month 37 technical papers were read and discussed at meetings which are the counterpart of our own Institution annual meeting. "Gas Week" was presided over by M. Prégermain, President of the Association Technique de l'Industrie du Gaz en France, who in his opening address said that routine was a very grave danger which such conferences, with their insistence on the professional culture of a personnel too often absorbed in the daily task and on direct contact between men animated by the same ideal, contributed much to break up, at a moment when a sense of initiative and responsibiltiy was necessary to preserve in a nationalized industry its essentially industrial and commercial character.

The following is a very brief summary of the communications. Professor H. Gault, of the Department of Research in Applied Chemistry at the Sorbonne, lectured on catalytic reactions in industrial chemistry. He defined catalytic reactions as those whose rate was modified by the introduction into the reactional field of a very small proportion of additional substances, catalyzers, which apparently remain unaltered in quantity and quality. He distinguished between positive catalyzers, accelerators, and negative ones which acted as inhibiters, hindering, for example, unwanted accessory reactions. Among the examples given were the elimination of sulphur from gas by the use of nickel and detoxification either by the oxydation of CO or its methanization.

M. Beaudet, of Limoges, spoke on the study of costs in the gas-works, the necessity of co-ordinating the work of the accountant with that of the technician. M. Duchêne spoke on the industrial use of infra-red rays. describing the radiant tubes which are generally used for this purpose in France, consisting of iron tubes from 50 to 60 mm. diameter, about 4 m. long, bent in the form of a hairpin, in which a flame of low pressure gas is burned. Such tubes can also be used for space heating. M. Gouffé, Chief of the Physics Section of Gas Research, dealt with the allied subject of transmission of heat by radiation in industrial processes, in theory and its practical measurement. While M. Biard, of the same service, lectured on experimental method applied in the domain of the utilization of gas, errors and their neutralization and/or elimination.

M. Widmer's paper dealt with loss of gas by leakages ("Unaccounted-for" gas), pointing out that the French gas industry would save 74 mill. cu.m. of gas per annum if such losses could be reduced to no more than 8%. His analysis of the problem differs in no essential detail from our own conditions except for the greater damage and interruption of maintenance during the war. In many districts 40 to 50% of the installations are more than 30 years old. M. Duchemin, of Gennevilliers, discussed the preparation of a thermal balance-sheet in gas-making plant. He took the calories available in the fuel used in heating the retort bench and analyzed its disposal in heat used in carbonization, losses by radiation and convection, and chimney losses. The usual methods of reducing these losses were described and M. Duchemin gave an example in which the thermal efficiency was 70% where the total heat used in the process amounted to from 540 to 665,000 calories per tonne of dry coal charged (say, 21.7 to 26.8 therms per ton). M. Grené described reconstruction after war damage. Before the nationalization of the industry, M. Grené was in charge of the company distributing gas in the much-damaged district of Noisy-le-Sec. He is now head of the transport and distribution section of the equipment department of Gaz de France. A vast programme of reconstruction is in hand, and M. Grené analyzed it in detail. The liaison between the Ministry of Reconstruction and "Urbanisme" and the Association Technique du Gaz is, he said, close and effective, good relations which were bound to be profitable to the cause of gas.

M. Ph. Schereschewsky, Engineer-in-Chief of Mines, contributes an article to the *Journal* on the first applications of catalysis in the American gas industry, and M. R. Le Paslier on the removal of naphthalene from the feeder pipes of gasholders, the successful method being that of injecting steam into the obstructed pipe. There are also accounts of the effective and adequate representation of gas at the Fairs of Paris and Lyons. To a conference on the preparation of bread, M. Embs spoke on the employment of town gas in bakers' ovens, observing that this operation absorbed 15% of the fuel used for the cooking of the food of the entire population, equivalent to the use of a million tonnes of coal. The use of gas would effect a considerable reduction in this figure.

M. Marty, Chief of the tar section of Gas Research, spoke, at a conference on the fight against corrosion, on the possibilities of the residual acids from the treatment of benzole as inhibiters. The exploratory work is not yet complete but it is thought likely that this will result in the utilization of a residual, hitherto a nuisance, in the solution of difficult problems in the protection of iron and steel against corrosion.

Coal Stocks

Coal stocks at the gas-works, which stood at about 27 days' demand at May 1, at May 15 stood at about 19 days, owing mainly to the interruption of American supplies since April 10 following the miners' strike there. This has made a hole in French resources of the order of 1,700,000 tonnes, but about 150,000 tonnes are being discharged at the ports or are in transport to the works. A 10% reduction in the price of coke to certain consumers has not resulted in a reduction of stocks, which are accumulating at the works, particularly in the Provinces. Gaz de France is asking with some confidence for complete freedom of sale of gas-works coke and of small metallurgical coke below 40 mm.

Gas in the Netherlands

In view of the paper on the development of the gas industry in the Netherlands presented to our own Institution by Professor Brender à Brandis a collection of four articles in *Het Gas* of June, 1947, abstracted in the French Journal is of great interest. W. J. A. Duynster, Director of the Committee of the Union of Dutch Gas Engineers, discusses the question "Is gas manufacture more economical in large than in small works?" He limited his enquiry to gas-works, excluding, that is, coke oven plants. Examining the statistics available to the Union, giving the total cost for 120 works, he found this was a minimum for an annual production of 10 to 12 mill. cu.m. (say, 350 mill. cu.ft.), but this figure included the cost of distribution. He therefore instituted an enquiry, to which 110 undertakings responded, to ascertain the cost at works. The result showed a progressive reduction in cost as the capacity of the works increased. Mr. Duynster then addressed himself to the question whether the margin between the cost of manufacture in the large and that in the small works was sufficient to cover the cost of such transmission of gas as would be necessary to concentrate manufacture in 24 large works with 12 small ones, which, because of their position, would continue to function. His answer was affirmative. D. J. Adrianse discussed the problem of concentration on a national scale with the coke ovens connected to the distribution system. In view of the advantages and the disadvantages of the proposed scheme and in view also of the existing instability of conditions, particularly in Germany, he counselled prudence and a slow, progressive development of the gas industry rather than any drastic re-organization. From the administrative point of view P. Hijdelaar, while not in favour of nationalization, stressed the advantages of concentration of manufacture in a limited number of centres in connexion, too, with the coke oven plants of the State Mines.

SCIENTIFIC FILMS

The second congress of the International Scientific Film Association will be held in London from Oct. 4 to 11. The Association was constituted last year in Paris by delegates from 22 countries who had accepted the joint invitation to the inaugural congress from the Scientific Film Associations of Great Britain and France. The primary aim of the Association is "to raise the standard and to promote the use of the scientific film and related material throughout the world in order to achieve the widest possible understanding and appreciation of scientific method and outlook, especially in relation to social progress."

This year's congress is being convened by the Scientific Film Association of Great Britain, with the help of the British Film Institute. and invitations have already been issued to countries throughout the world. The congress will open with a formal reception to the delegates on Oct. 4 and the following three days will be devoted to business meetings of the International Scientific Film Association. On Oct. 8, 9, and 10 there will be a Festival of Scientific Films, when it is hoped to show many contributions from all the participating countries to members of the general public.

Further details may be obtained from the Scientific Film Association of 34, Soho Square, London, W.1.

Dr. J. H. Paterson, Vice-President of the Institute of Welding, headed the British delegation attending the inaugural meeting of the International Institute of Welding at Brussels. Representatives of several British technical associations attended this four-day conference with 13 other nations. Besides works visits and social events there were technical sessions at one of which Dr. R. Weck read a paper on "The Present Position on Residual Stresses in Welded Structures," describing work carried out at the Department of Engineering, Cambridge University, and at the research station of the British Welding Research Association. The Secretary of the Institute of Welding, Mr. G. Parsloe, was elected Secretary-General of the new international organization.

LONDON AND SOUTHERN JUNIORS' LADIES' DAY

Some 240 members, wives, and friends of the London and Southern Junior Gas Association were the guests of the Directors of the Tottenham and District Gas Company on the occasion of the Association's Summer Visit and Ladies' Day on June 19. Our photograph of the group, with Colonel H. C. Smith, Deputy-Chairman-Designate of the Gas Council, and Mrs. Smith, in the centre, and Mr. C. A. Deas, President of the London Juniors, on Colonel Smith's right, was taken on the steps of Hatfield House.

GAS ENGINEERS' NATIONAL GUILD

A meeting of the Gas Engineers' National Guild, attended by some 300 members, was held at Friends House, London, on June 8, under the Chairmanship of the President of the Guild, Mr. G. E. Currier. The President, introducing the Annual Report, reviewed the work of a very strenuous year. The Guild membership has grown rapidly and now includes about 70% of all the senior officials eligible under the membership rule. The Guild has been accepted by employers and the Ministry as the negotiating body for senior officials in the industry. Local Area Committees have been formed in the Midlands (Mr. A. B. Britton, Hinckley, Chairman), Lancashire and Cheshire (Mr. J. Hood, Birkenhead, Chairman), Yorkshire (Mr. G. E. Currier, Bradford, Chairman), and Scotland (Mr. James Dow, Paisley, Chairman).

In connexion with the nationalization of the industry, representations were made to the Minister on many matters affecting senior staffs, including:—

(1) Objects of the Guild; (2) liaison between the Guild and the Institution of Gas Engineers; (3) the honouring of existing contracts of service; (4) compensation for loss of office or emoluments on the basis of the 1933 Local Government Act; (5) pension schemes; (6) multiple appointments, such as gas and water engineer, gas and electrical engineer, &c.; (7) allowances and privileges; (8) alterations to salaries after the announcement of the Government Bill to nationalize the gas industry, provided these were made in a reasonable manner and to a reasonable degree; (9) co-partnership; (10) war service; (11) sickness schemes; (12) staffs at head offices of holding companies; (13) staff of voluntary gas organizations; (14) the extension of the five years' transitional period to 10 years after the vesting date.

These formed the substance of a reasoned memorandum that was presented to the Ministry.

The Ministry welcomed the Guild as representing the senior officials of the industry, and having stated that most of the matters raised by the Guild would be the subject of Regulations to be drawn up by the Ministry after the passage of the Bill, promised that the Guild would be called into consultation before such regulations were finalized.

In view of the early nationalization of the gas industry it has been suggested by the Ministry that the Guild should not continue its negotiations with the present employers but should negotiate with the Gas Council as soon as it is formed in order that salaries and conditions of service should be agreed before vesting date. Arrangements will be made accordingly.

The Managing Council of the Guild made arrangements in conjunction with the British Gas Council for certain representations to be made during the Committee Stage of the Bill, particularly in regard to the following:—

(1) That in order to facilitate the movement of staff within the industry between now and vesting date, a clause be inserted in the Bill enabling existing pension rights to be retained on transfer of the individual from one gas undertaking to another within the industry to be nationalized.

(2) That compensation for loss of office should remain payable for any loss of office or emoluments occurring during a period of 10 years from the vesting date.

(3) That when executives hold multiple positions (*e.g.*, gas and water engineer), salary lost if one of these offices is discontinued on nationalization should be merged into the salary paid to the official for the post he retains.

The Parliamentary Secretary to the Ministry has been approached regarding the difficulty that many members have in accepting, at this juncture, new posts which might involve an altogether disproportionate surrender of pension rights. This difficulty, it was explained, is preventing the filling of posts that fall vacant in the industry. Since that meeting, a letter has been received from Mr. Alfred Robens stating that the difficulty could be overcome if the company offering the appointment would take over the liability in respect of pension rights of the person appointed. The company could obtain the approval of the Minister under Clause 35 (1) of the Gas Bill which would ensure that this liability would be taken over by the appropriate Area Board on nationalization.

An addition to the membership rule was approved as follows:—

" Persons holding executive positions in a gas undertaking or other organization and in receipt of a salary of not less than £750 a year."

The effect of this addition is to render such senior officials as company secretaries and chief accountants eligible for membership of of the Guild provided that they hold positions in sufficiently large undertakings.

In concluding the meeting the President paid a tribute to the valuable help and co-operation that the Guild had received from Sir Frederick West, Dr. A. Badger, and officials at the Ministry. He said that after less than two years in existence the Guild was now firmly established and that it had obviously a great deal of useful work to do in the future.

The following officers for the ensuing year were unanimously elected:— *President*, Mr. G. E. Currier (Bradford.) *Vice-President*, Mr. F. Dawson (North Middlesex). *Treasurer*, Mr. J. M. McLusky (Calverley). *Secretary*, Dr. G. E. Foxwell.

COMPANY MEETING

SOUTH-EASTERN GAS CORPORATION

MR. A. E. SYLVESTER ON THE PROGRESS OVER FIFTEEN YEARS

THE Sixteenth Ordinary General Meeting of the South-Eastern Gas Corporation, Ltd., was held on June 24 at Gas Industry House, 1, Grosvenor Place, London, S.W.1.

Mr. A. E. SYLVESTER, F.C.A., the Chairman, presided. The following is his statement which was circulated to the proprietors:—

The accounts of the Corporation for the year ended Mar. 31, 1948, which are to be submitted at the general meeting, have already been sent to you. It will be seen from the revenue account that over £9,000 more was received in dividends and interest from our investments in subsidiary companies.

There have been small changes in the rates of dividend paid by certain subsidiaries, including some reductions enforced by the sliding scale control in consequence of increases in the price of gas which had to be made last year. Although there is already a statutory control on the dividends of nearly all gas undertakings, the Gas Bill which is now before Parliament has added another restriction by, in effect, limiting the Ordinary dividend which companies may pay after its introduction to the rate paid in 1946, or to 4% per annum, whichever is the greater.

Other income is up by nearly £24,000, the principal reason for the increase being the additional interest which was received as a result of more money being lent to subsidiary companies, as explained below. Most of the expenses in the revenue account are unaltered, but there is an increase of £7,500 in the interest payable on advances from bankers and on money deposited, and the charge for income tax is higher by £8,000.

Dividend Recommendations

As the result of the year's working the sum of £152,426 remains to be carried to the appropriation account. After taking into account the balance brought forward from the previous year, there is a sum of £254,941 available for distribution. The Directors have paid the usual Preference dividends, and an interim dividend of 2½% on the Ordinary stock. They now recommend a final Ordinary dividend of 3½%, less tax, making the Ordinary dividend for the year 6%, less tax. The restrictions imposed by the Gas Bill apply to the dividends of the Corporation as they do to the dividends of its subsidiary companies, with the result that the Corporation cannot pay more than 6%, even though the net revenue for last year permits of a higher dividend. After paying the dividend recommended, there is a balance of £123,228 remaining to be carried forward, an increase of over £20,000 on the amount brought in.

Turning to the balance sheet, the only changes of importance are in the loan position. The Corporation has made a practice of advancing temporarily to subsidiary companies the money required to finance work in progress, until the right time came for these companies to make issues of their own capital and repay the loans. After the war there was a rapid increase in the amount of money required for development in the group, and it was decided last year that some of the subsidiary companies should make issues of capital. General meetings of four subsidiary companies were arranged to give their sanction to issues of Preference stock, and it was proposed that other companies which needed capital should apply to the Ministry of Fuel and Power for increased capital powers. Before the proposed issues of Preference stock could be made, it became known that the Government intended to present a Bill for the nationalization of the gas industry in the present session of Parliament. In view of this, it was decided that it was no longer necessary to make the issues of capital, and, with the consent of the Ministry of Fuel and Power, arrangements were made for increased borrowings from our bankers.

Loans to Subsidiary Companies

It will be seen that loans to subsidiary companies amounted at Mar. 31, 1948, to £1,463,014, and that secured advances from our bankers at the same date were £1,465,008. I mentioned in my statement last year that the British Government securities held by the Corporation as a general investment at Mar. 31, 1947, had been sold, and the profit of £9,249 realized on their sale has been added to the capital reserve.

Under the provisions of the Electricity Act, 1947, the Southern Electricity Board took over on April 1, 1948, the electricity undertaking of the Ascot District Gas and Electricity Company. The Corporation's majority holding of Ordinary stock in this Company is not affected, as there has been no alteration in capital structure, but the Company is now only operating its gas undertaking, and will at some future date receive an allotment of British Electricity Stock as compensation for the transfer of its electricity assets.

The gas undertakings controlled by the Corporation sold in the aggregate 3.7% more gas in 1947 than in 1946. At several places the increasing demand for gas is outstripping the capacity of the existing works, and under present conditions it takes a long time to get new plant constructed and installed. In the meantime, every effort is being made to make the best use of the plant which is available by laying connecting mains between works, and by transferring plant which can be spared from one works to another where it can be better employed.

Nationalization

During the year under review the Government has introduced a Bill to nationalize the gas industry, and at the time of writing this Bill is still under discussion in Parliament.

So far as you are concerned, as holders of capital in this Corporation, the proposal is for the Government to acquire your interests in exchange for British Gas Stock. The amount of British Gas Stock to be issued is determined by the Stock Exchange quotations ruling on certain alternative dates. This means that you will receive in exchange for stock in the Corporation the following amounts of British Gas Stock:—

	s.	d.
For each £1 of Ordinary Stock	22	7
For each £1 of 4½% Redeemable Preference Stock ..	22	2
For each £1 of 4% Irredeemable Preference Stock ..	20	6

There is, however, the possibility that some of these figures may be increased, on the ground that the quoted prices taken are lower than they would have been if some of the subsidiary companies, particularly those on the south-east coast, had not suffered a loss of gas sales on account of the war. It is, I think, permissible to inform you that, in the Bill as originally presented, no such claim could have been made, as holding companies were not eligible for the concession. Following representations made on your behalf, however, the Government introduced an amendment which has the effect of enabling a claim to be put forward. I cannot, of course, say whether such a claim will be successful, but I have every reason to think that the case is a strong one.

In my speech last year I drew attention to the dangers of over-centralization in nationalized industries. The proposed organization of the gas industry as outlined in the Bill seems to me to avoid these dangers, as it aims to create 12 autonomous area boards, with a central council (composed of the 12 area chairmen, with a chairman and deputy chairman in addition) acting in an advisory or consultative capacity. I have been honoured by being designated, by the Minister of Fuel and Power, Chairman of this Council when it is set up, and I have agreed to undertake this duty.

Record of Progress

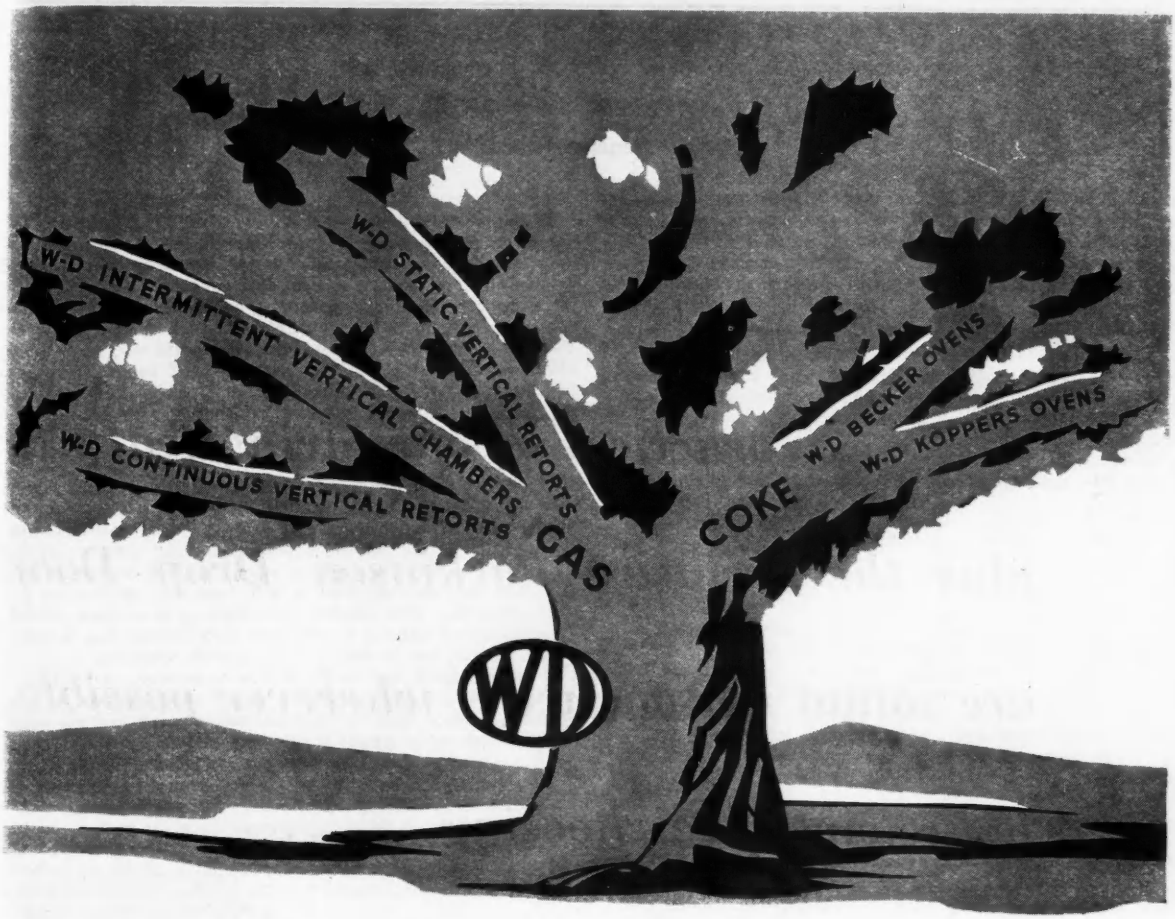
So far as can be judged at present, this annual general meeting is likely to be the last of its kind, for by this time next year the Corporation will have ceased to be.

Looking back over its life of 15 years, I think it can fairly be claimed that, in spite of the fact that the planned development by means of amalgamation of subsidiaries has been impossible owing to the war, a great deal has been done, by way of internal organization, to improve the service to the public and the conditions of employment. By bringing under one control companies supplying neighbouring areas, it has been possible to lay down a scheme of future development with the final aim of concentrating the manufacture of gas at the larger and better situated works. Some progress has already been made in this direction by laying trunk mains between works, and, although the war has prevented the completion of all our proposals, the advantage has been secured that all extensions of plant and mains can be made to conform with this long term scheme.

Although the Corporation did not bring all its present subsidiary companies under its control in 1933, it may be of interest to give some comparisons between the results of those companies as a whole in that year, when the Corporation began to acquire control of them, and in 1946. Taking the sales of gas first, these increased from 41,000,000 therms in 1933 to 65,000,000 in 1946, an increase of 58%. During this period of 14 years the average price payable for coal has increased from £1 6s. per ton to £2 17s. 5d. per ton, an increase of 120% whereas the average price of gas has only increased from 9.9d. per therm to 12.6d. per therm, an increase of 27%. It is also worthy of note that the capital charges per therm sold, which were over 2d. per therm for the group as a whole in 1933, were only 1.4d. per therm in 1946.

Once again I would like to close my remarks with a sincere tribute to all ranks in the service of the Corporation and its subsidiaries. They have worked loyally and well, and I am indeed proud to have been the leader of such a fine team. I hope that in my new sphere of duty I shall be able to maintain contact with the many friends I have been so fortunate to make, on the Board of Directors, and among the staff and workpeople.

The report and accounts were unanimously adopted.



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FUNCTIONALISM AS A TOOL TO MANAGEMENT*

By C. H. LEACH, M.A.(Oxon.), A.C.A.,
General Manager and Secretary, Liverpool Gas Company

(*Continued from p. 765*)

The Sales Manager's Division

THE conception of the objects of the Sales Manager at Liverpool, bearing in mind the size of the undertaking, is that he should be responsible for the disposal not only of all saleable by-products but for promoting and maintaining the sales of gas and appliances from the inlet of the meter to the final point of consumption, all customer service work in that field, and the implementation of customer charge policy. Here again, certain activities, sometimes thought to be either wholly or in part within the jurisdiction of other divisional heads, have been stripped from them and gathered as functions under the Sales Manager, and the author's remarks will, therefore, cover such activities and will also touch on others of his functions where they appear to call for special comment.

Transport

Immediately before the formation of a self-contained transport department and the admission of the concept that transport was mainly an adjunct to customer service, motor-drivers and second men, and maintenance mechanics, were under the control of the direct work officials at the locations from which the motors worked, and thus came under the jurisdiction of differing divisional heads. In addition, reserves of personnel and vehicles, with their spares, were carried at each location in an endeavour to maintain an uninterrupted service; a temporary shortage of transport at one location tended to be filled by recourse to outside contractors when vehicles were standing idle elsewhere in the undertaking; because of individual buying the fleet was comprised of many different makes and models of vehicles, with attendant spare-part problems. Maintenance shops existed at each location, not one being sufficiently large to justify the expense of adequate tooling with modern garage equipment.

Here again, functional integration was not achieved overnight, but a newly formed transport department, under a specialist manager and operating with one central and properly tooled repair shop absorbed the whole of the transport activity from each location, thus accumulating under unified control all vehicles with their spare parts, personnel and tools.

This relieved direct work officials of another distraction, enabled the difficulties previously enumerated to be remedied, freed service garage space for other use, and, at the same time, revealed an overall redundancy in spares and personnel. The pooling of vehicles at once reduced the calls hitherto made on outside haulage contractors, and a regular and consistent vehicle-maintenance routine was inaugurated, and, with transport now being the only responsibility of one executive, it became profitable to make full use of the costing function as an essential to that executive for the better and more economic organization of his function.

Costing was now able to point the way to further economies—*e.g.*:

(1) Establishment of priority for vehicle replacement on basis of highest operating costs.

(2) Establishment of optimum capacity of vehicles for differing classes of delivery work.

(3) Contracting out major repair work and vehicle painting after adverse comparison of experienced costs with outside prices for specialized work.

Quite soon it was realized that, in addition to vans, trucks, and passenger cars, the servicing of all internal combustion engine equipment should be aggregated to the Transport Manager's function—*e.g.*, Muirhill shovels, dumpers, mobile air compressors, mechanical pumps and rammers; thus another harassment left direct work officials.

In accordance with the "contracting out" principle, the function is continuously under review to ascertain which of the activities in the transport department should be shed to contractors, and all costs are built up with a view to ease of comparison with quotations from specialists, which are used as target figures.

At the time of writing, the nation-wide truck shortage has resulted in the absence of a free market and has tended to inflate hiring charges, thus restricting the ability to profit by "farming out" traffic. Use is made, however, of haulage contractors for peak and specialized transport work which would not allow of full-time operation for the vehicles (tankers, say) if owned by the undertaking, but the hiring of all vehicles, for whatever use, is a responsibility of the transport department which, in effect, operates as a contractor providing the various departments with vehicles on hire, whether the Company's or not.

Appliance and Meter Repair Shops

Prior to reorganization these shops were not regarded as the responsibility of a Sales Manager, indeed the heterogeneous nature of the activities there inhibited the present conception that the shops are solely an adjunct to customer service.

In addition to the work obviously implied by the title of this section, the Shops Manager was also responsible for maintaining the fabric of his building and the near buildings, and thus there were also on the site:

(i) Joiners' shop,
(ii) Paint shop,
(iii) Bricklaying section,
(iv) Electricians' shop,
(v) Smithy, and
(vi) Plumbers' shop,

each necessitating its own personnel, equipment, stores, and incurring the usual overheads of personnel employment.

The first steps in functionalization were to strip these extraneous activities: items (i) to (v) were passed to a newly formed construction and maintenance department (of which more later), and item (vi) to the installation department, thus confining the scope of the shops ostensibly to:

(vii) Meter making,
(viii) Meter repairing, and
(ix) Appliance repairing,

and it was then opportune in these narrow confines, to make the customary detailed survey of every activity.

It is not thought necessary to repeat the trend of thought which led almost immediately to the discontinuance of meter manufacture; sufficient to say that only good has come from reliance upon professionals. Meter repairing, also, was discontinued, but at a later date and, again, with all-round relief.

The investigation of every task performed revealed an extraordinary variety of items, and it soon became evident that a vast number of jobs were undertaken wholly divorced from the bare essentials of appliance repair, and that the shops (perhaps because of the diversity of craftsmen employed therein) had become a centre for the execution, regardless of cost, of a miscellany of pseudo urgent jobs. Further analysis, in its turn, revealed that the ability to carry out these jobs of itself had engendered, in those initiating them, a background that forethought in ordering was unnecessary.

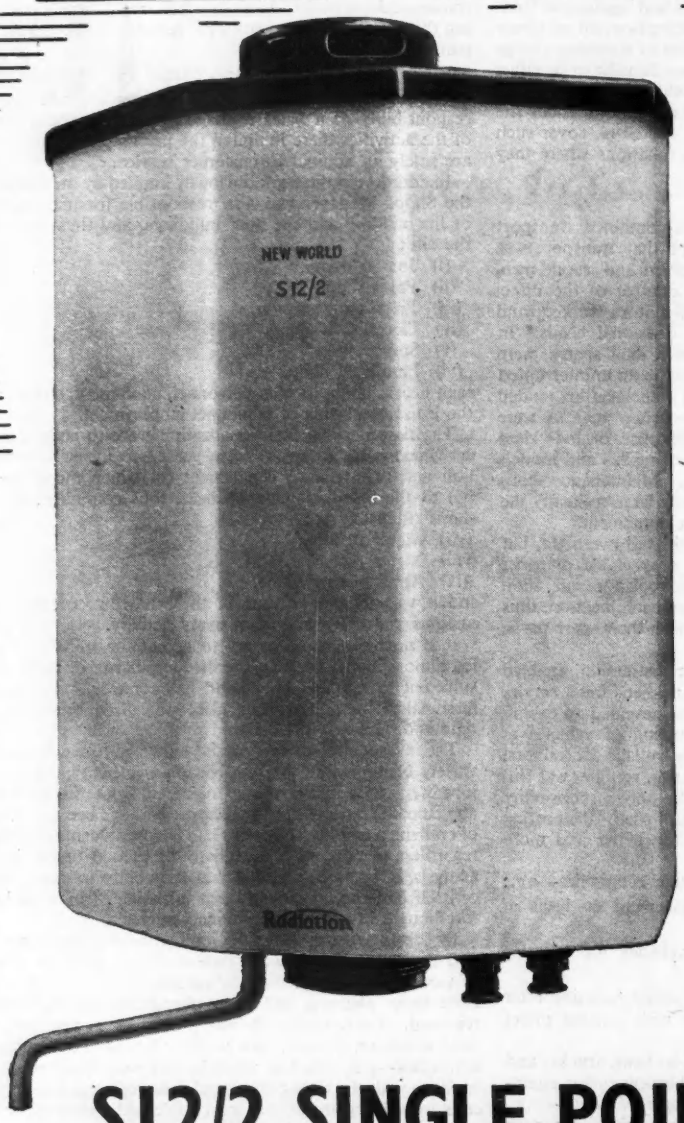
By this time the costing function had been brought into the picture, and the job costs produced indicated that much of this miscellany of work could best be done by outside contractors at reduced prices once order planning had been introduced and the urgency factor removed. Every single job was probed as to whether it should be done at all, or, if done, then whether by the shops or by an outside contractor—*e.g.*, obsolete water-heaters were being repaired quite at variance with the sales policy, and this work was discontinued; paint cans were being made at a cost of 7s. 6d., whereas an adequately serviceable article could be bought outside, ready made, for 9d.; main cocks, some even of an obsolete type, were being reconditioned irrespective of the demand; sheet-metal hoods for canteen equipment were being made; the list appeared endless, but one by one the jobs were either discontinued or farmed out.

When finality was reached and the work reduced only to the support of sales policy it was possible to transfer the operation of the shops to the sales manager's division, under the executive already responsible for installation and maintenance work, as an essential additional means of improving customer service.

The net effect, apart from the relief to the higher management, was monetary saving on the jobs farmed out, a release of personnel, both manual and clerical, a reduction in the working capital invest-

*From Communication No. 336 of the Institution of Gas Engineers. Presented at the Annual Meeting in London, June 9, 1948.

FOR ECONOMY AND



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Only Radiation *Appliances*

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Radiation's NEW WORLD S12/2 Single-point Storage Water-heater has climbed to a peak of popularity. Consumers like its gas economy and convenience. Undertakings are pleased with its low maintenance requirements.

The REGULO automatic temperature control and effective insulation against heat losses play a big part in achieving the high performance of the NEW WORLD S12/2—another Radiation contribution to the building of a trouble-free gas load. For hard-water districts the fitting of a NEW WORLD Scale Reducer still further reduces servicing costs.

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T3*

NEW WORLD NEW WORLD NEW WORLD

ment in stores, space, and machinery, and a reduction in many other overheads consequent upon personnel and material employment and, at last, the work properly co-ordinated with the sales and service policy.

Gas Fitting and Maintenance Work

To this work, already necessitating a large body of men for the district, were aggregated those units of this activity hitherto carried out by personnel under the jurisdiction of direct work officials at the various locations and stripped therefrom. It was immediately possible to raise the standards of work done for the undertaking itself to the pitch thought appropriate for the district, both as to maintenance and the grade of appliances in use, and again direct work officials were relieved of another factor tending to divert them from their true activity. The resulting redundancy was welcomed at the time, in view of the labour shortage; incidentally, the inclusion of appliance maintenance under one responsibility, on which the spotlight of the costing function had already been turned, clearly pointed to the necessity for replacing at every available opportunity works gas lighting with electricity, from which substantial economies would flow.

With all the work now being under one functional head it was possible to make, both physically and with the aid of the costing function, a detailed survey of all activities. An attack, through this executive, on all overheads, resulted in many real economies. It further appeared, during the continued investigation, that travelling time could be reduced by decentralization, and this was achieved by opening five depots, all of which have since been closed, one at a time, as and when it became evident that the corollary establishment and supervision charges more than offset the benefit accruing from reduced travelling time.

It is a mistake to assume that the larger an installation department becomes, the more economical it must be, as one is not dealing with mass production in the accepted form with the benefits that can flow therefrom, but only with an agglomeration of widely dissimilar units of work, each done under differing conditions. In consequence, the "contracting out" technique was then employed for this work, and a much greater measure of effective decentralization, with its known benefits has been achieved than was ever possible within the limited resources of the Company, as the many decentralized contractors have absorbed such work as has been given to them without an appreciable increase in their depot overheads, they having aggregated the new load to an existing local load. It should be added that the Company insists on the work being done to standards laid down by the Company and done on the Company's behalf, the costs being charged to the Company for reinvoicing, if appropriate.

The consequential reduction in travelling time, supervision, and establishment charges have resulted in decreased job costs, thus benefiting directly the customer in chargeable cases, or indirectly in the non-chargeable cases which ultimately reflect in the price of gas.

All the appliances installed by contractors at the Company's request are of models or types tested and approved in the Company's Physical Testing Laboratory as being suitable, and so appear in the Liverpool Gas Company's Manual of Approved Appliances, of which, the author is pleased to say, great use is made by neighbouring undertakings—a further advantage of functionalism.

Customer Job Progress

In any sizeable undertaking, when a customer gives an order for work to be done, a train of operations is set in motion which may impinge on any or all of the following sections: Sales, contracts, stores, transport, customer accounting, mains and service, appliance repair shop, installation and/or maintenance, or plumbing contractors.

Before the formation of the customer job progress department, at any moment of time during the progress of a job relevant papers or information might be in any of several departments, travelling on uncharted courses. To answer a question about a job was extremely difficult and could entail inquiry in several places, not always with immediate satisfaction, and although restricted liaison existed, yet it was cumbersome and unco-ordinated. It was, therefore, conceived that a separate function existed in this field, and a job progress department was formed, from staff released from the other departments carrying parts of this activity, to control jobs from order to completion; thus, the department is responsible for seeing that job papers, all of which it initiates, are progressed and travel in correct sequence as speedily as possible to and from all interested departments; that all work is done expeditiously; and that completed papers pass forward for charging immediately after job completion.

The department is at all times a centre for all information about a job, whether being done by a contractor or by the Company's own installation fitters, and can answer all inquiries immediately, whether coming from customers or from within the undertaking, and the departments mentioned at the beginning of this section have been relieved of the relevant responsibility and harassment. At the same time, all stages of jobs are now under one administrative control from start to finish.

Telephone Inquiries

One is accustomed to the person who telephones and says to the PBX operator something vague, such as, "I want to talk to somebody about my cooker." The switchboard is busy, the operator listens to just as little of the statement as enables her to think, not always accurately, that she has gleaned enough to pass the call to an extension in the appropriate department. This, however, is the best that can happen, and we have all of us had infuriating experiences in similar circumstances when ringing up a large concern, because we cannot know their departmental set-up; nor, I am sorry to say, in many cases is the clerk to whom we eventually speak interested in our problem, but rather is irritated by the interruption in his routine work, which fact, in turn, is often reflected in the service obtained.

In 1932, the Philadelphia Gas-works management, in conjunction with the Bell Telephone Company, solved this problem by a very practical method, a method which has subsequently been copied throughout America, where the author saw it in operation from New York to Los Angeles. The method is to have a separately numbered incoming bank of telephone lines allotted to Enquiry, Trouble, and Order calls and so described in the directory, the telephone number being distinct from the number of the usual PBX installation with its network of internal extensions.

The use of the telephone in Britain is increasing rapidly and communication by this method is fast replacing the written word, and we must adapt ourselves as quickly as possible to the changing conditions and make adequate arrangements to receive an ever-increasing number of telephone calls. Thus, the Liverpool Gas Company adopted the American routine. Attendants sit in a telephone enquiry bureau, each at a separate desk with her own specially designed instrument. Incoming calls are distributed by the automatic equipment to these attendants in strict sequence, and they may never pass the call away, but must deal wholly with the caller. If some special information is needed to answer a particular enquiry, the attendant has the facility for holding the caller while she speaks to any of the internal extensions connected to the differently numbered PBX installation. Many calls require the writing of dockets which are immediately dropped on to a conveyor-belt system leading to the job progress department. Thus attendants are always available at their desks to accept traffic.

Some advantages of functionalizing this telephone traffic are:

(1) A limited and definite number of personnel is employed full-time in handling the public, as against an indefinte number part-time, and it is now economic thoroughly to train the limited few engaged in the niceties of the remote handling of customers.
(2) The writing of dockets is centralized and their movement can be handled by a conveyor-belt system as against manual transmission from scattered departments, involving time lags.
(3) The customer tells his story once only and is responded to by one voice only—namely, that of an attendant whose only duty is to give personal attention to the customer's problem.
(4) An ability has been created and is used for analysis of the reasons behind all calls, with a view to preventing as many as possible of those reasons from arising in the future.
(5) Staff engaged on other work in other departments are not diverted therefrom, with relief accordingly.
(6) The weight of the problem is now known and there is no need for other departments to carry staff to handle a job of scattered incidence.

A further development has taken place whereby customers who come personally to the showrooms to report trouble are invited to use one of the direct lines from the showrooms to the telephone enquiry bureau, and thus the information gets to the main centre, again without delay from physical transmission of documents.

This has resulted in staff reductions in the showrooms, as the waiting time of a telephone instrument is not only cheaper but preferable in every way to that of a showroom attendant who is obliged to await customers who may or may not come.

There is no doubt but that the introduction of this function has not only effected appreciable internal economies but has stepped up the quality of the service to customers, who frequently express their appreciation of the streamlined handling of their enquiries which, from a telephonic point of view, have been increasing steadily and now are running at 60 calls per 1,000 meters per month.

Vocational Training School

To ensure that personnel under the Sales Manager receive appro-

priate vocational training, a school, with the approval and co-operation of the Liverpool Education Committee, was started under the control of an official with special aptitude for teaching. Syllabuses to provide for the proper training of cookery demonstrators, salesmen, maintenance fitters, installation fitters and apprentices, &c., were formulated and agreed with the departmental heads concerned, who were then relieved of the difficulties of trying to train their own personnel in addition to performing their true activity, and the training became the whole-time duty of special instructors working to the previously agreed curriculum.

Incidentally, the school has also proved to be of value to neighbouring undertakings, so providing a further advantage of functionalism.

The Distributing Engineer's Division

At Liverpool, distributing from the inlet works governor to the inlet of a customer's meter, together with main and service laying, was originally regarded as part of the responsibility of the engineer in charge of production. Production problems are difficult enough without burdening the man responsible for those problems with the added care of planning, supervizing, and organizing distributing work —an entirely differing set of activities and spread over a large area outside the works gates. It is the inherent difficulties of such a set-up which have, in the author's opinion, led to distributing problems being so neglected in the past, as is the case with but a few notable exceptions.

There is no doubt in the author's mind that the appointment of an executive at divisional level in Liverpool, solely charged with the distributing department, has not only relieved the production division of considerable harassment, but has also been responsible for noteworthy improvements in the Liverpool Gas Company's technique in remote control of district holder stations, equalization and provision of adequate pressures throughout, and, in a smaller way, the introduction of the American small-hole opening methods, to cite a few examples.

Distributing and main and service laying are inter-related in such a way as to constitute a separate function, and it is sufficient perhaps to say that at Liverpool they are treated as such; the maximum use is made of mechanization and instrumentation, together with remote-control equipment for the reduction of man-power, also the employment of mainlaying contractors to carry out jobs which would otherwise promote peaks of work.

Siphon Pumping

Under this heading yet another stripping operation has taken place —namely, that the responsibility for keeping clear all but the most exceptional siphons on the four works has been removed from the shoulders of the works managers and aggregated with the already large load of similar work on the district, and so is now carried by the distributing engineer; thus, another distraction has been shed by direct work officials. Again, the close study of this activity has paid dividends by leading to mechanization, lengthening in the periodicity of siphon clearance, and, in certain instances, installation of larger siphons to facilitate lengthened periodicity.

The Gas Engineer's Division

In the following section of this paper reference will not again be made to those activities previously carried by a works but already described in this paper as having been stripped from this division by functionalization and transferred to other divisional heads, and it is hoped it will be realized at this stage how much relief has been afforded to those responsible for gas manufacture and works maintenance, so as to enable them the better to concentrate on their inescapable activity.

Before functionalization was applied within the four manufacturing works, each was reasonably self-supporting and carried, in addition to the personnel concerned in manufacture, various groups of tradesmen believed necessary for the maintenance of plant and buildings.

The first step, therefore, was the accumulation and integration of these varied activities into what was named the construction and maintenance department, housed in a vacant building on one of the works, but divorced from all works, and under an engineer directly responsible to the divisional head and at an equal level with works managers. The results which flowed from this operation were of the greatest importance and eventually the new function embraced virtually all tradesmen and certain other personnel, and the department was used as a tool for the removal of worry and for the more efficient working of the undertaking. Many groups were integrated with this department, and there now follows a commentary on those absorbed.

(a) Decorative Painting

Before rearrangement there were employed on five sites (four manufacturing works and the appliance repair shops) a total of 18 men, inclusive of charge-hands, each small group carrying its own stocks and working under the direct work official at the location. The arrangement for and supervision of the work of these men created a difficulty, and when functionalization took place and all the personnel from the four works, together with that stripped from the shops, concentrated in the construction and maintenance department under a supervisor, immediate redundancy, both in personnel and stocks of consumable stores, was revealed, and the numbers fell at once to seven.

Each group had been carrying extra personnel in some effort to be in a position the better to deal with peaks, but with the attendant difficulties of providing work in off-peak periods. The construction and maintenance painters as a team, now employed only on their speciality, under good supervision, because they were numerically greater than any of the five previous teams taken singly, completed each job in a shorter period, thus causing less dislocation, and at the same time released at the five locations the shops which they had previously occupied. Incidentally, the grades and colours of paint and other materials in use were standardized.

Jobs were executed on the receipt of orders placed by the location heads after the submission of estimates comparable with outside prices, but programmed by the construction and maintenance engineer, due regard being paid to priorities, and a great measure of efficiency was achieved under this set-up. It soon became apparent, however, notwithstanding this improvement, that some of the previous difficulties still persisted—namely, peaks and troughs of work, and at no time could the jobs to be done exactly be matched, even over the whole undertaking, with a team which could carry economically the minimum essential specialized supervision overhead.

The weight, however, of the decorative painting over the whole Company, being concentrated in the one place, was known and under full-time control, and at this stage the function was reviewed as to whether it should be carried inside the Company, or outside the Company within the greater flexibility of contractors. The decision will be obvious. No direct labour is now employed in this trade, and the Company has sold £1,500 worth of paints of many colours, together with all the other incidentals.

(b) Other Trades

In a similar way, and with similar beneficial results, other activities were stripped from the four works and elsewhere, and grouped functionally as separate sections in the construction and maintenance department. As examples may be cited:

(i) Joiners.
(ii) Bricklayers (including patchers and scurfers).
(iii) Rough painters.
(iv) Electricians.
(v) Mechanical maintenance fitters.
(vi) Blacksmiths.
(vii) Gasholder maintenance men.
(viii) Welders and platers.
(ix) Boiler-tube cleaners.

Under headings (iv) and (v) it was necessary to allow the direct work officials to retain small skeleton staffs under their control to cover emergencies. By bringing all these functions under direct whole-time supervision, the weight of the various problems is now known and under control, and adequate tooling, now economic, has been introduced. Startling redundancy immediately came to light in men, materials, and equipment, and specialized supervision has resulted in improved techniques. Indeed, the advantages which accrued from the formation of this department merit a separate paper.

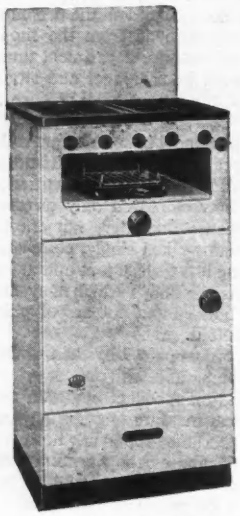
Only partly has it been possible to apply the contracting-out principle to these trades. As usual, however, the maximum use is made of this weapon where economic. For example, all reconditioning of tools, including those of the mains and service department hitherto done by blacksmiths, is now done better and cheaper outside as is all boiler-flue cleaning and gasholder painting where not covered by oil filming.

Chemical Laboratory

Originally, the chief chemist was directly responsible to the divisional head in charge of production for all the personnel and work done in the four laboratories at the manufacturing works, and at first sight this appeared to be a proper functional arrangement. On consideration, however, it was rejected on the grounds that a production manager at a works, held responsible for the proper day-to-day operation of his plant, was not in control of that chemical work necessary satisfactorily to fulfil his inescapable duty. Hence, there was a redeployment of personnel, whereby certain chemists were made directly responsible to the works manager for day-to-day chemical work, and a central laboratory was opened in vacant premises at one works, and placed under the chief chemist, to which the remaining staff

The No 177

A COMPLETE RANGE



No. 177 with short splashplate; 4 burner hotplate; 14" oven; plinth base; finished in cream/black.

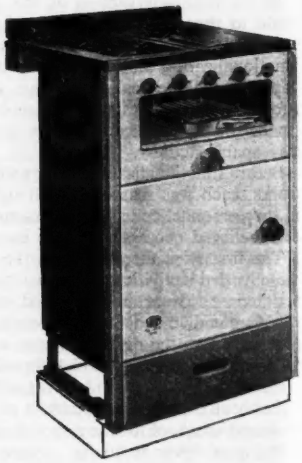
CHOICE OF OVEN HEIGHTS: 14" or 16"

No. 177 with short splashplate; 3 burner hotplate; 14" oven; plinth base; finished in dapple/white.

No. 177 with plate-rack and splashplate; 3 burner hotplate; 14" oven; chromium runners; finished in cream.

No. 177P (Portal type); 3 burner hotplate; 14" oven; finished in green/cream.

NOTE: Supplied only with 3 burner hotplate and 14" oven.



No. 177 with plate-rack and splashplate; 3 burner hotplate; 14" oven; cast iron legs; finished in dapple/white.

MAIN

R. & A. MAIN LIMITED

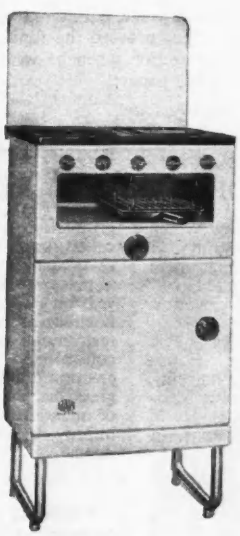
Gas Cooker

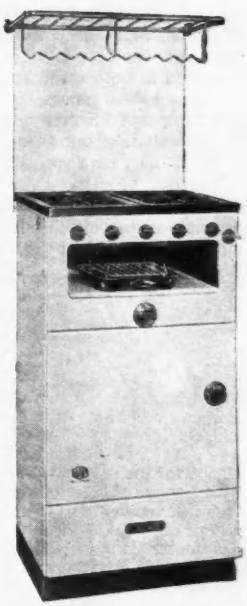
VERTICAL and BUILD-IN MODELS

CHOICE OF HOTPLATES : 3 or 4 BURNERS

No. 177 with short splashplate; 3 burner hotplate; 14" oven; cast iron legs; finished in dapple/white.

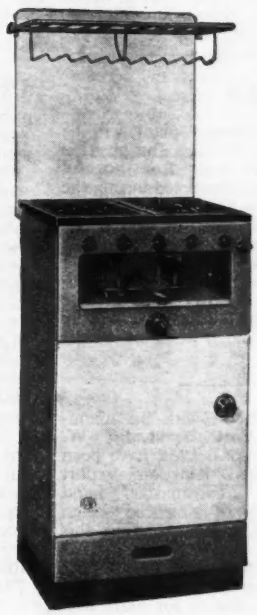
No. 177 with short splashplate; 3 burner hotplate; 14" oven; chromium runners; finished in cream.





No. 177 with plate-rack and splashplate; 4 burner hotplate; 14" oven; plinth base; finished in cream/black.

No. 177 with platerack and splashplate; 4 burner hotplate; 16" oven; plinth base; finished in dapple/white.



No. 177 (Build-in-type); 3 burner hotplate; 14" oven; plinth base; finished in cream with black base.

NOTE : Supplied only with 3 burner hotplate.

MAIN

LONDON AND FALKIRK

was moved. This Central Laboratory staff, while maintaining liaison with the works, carried out the analysis of coals, cokes, benzoles, tars, oxides, &c., and also controls instrumentation and development.

It will be appreciated that whereas four people previously analyzed any one item at the four production locations, with the analysis of each item now the duty of one person only, techniques have been improved and standardized and results receive consistent interpretation. Furthermore, by aggregating similar routine duties previously carried par-time by senior men, it has been possible to transfer such work to juniors as their whole-time duty, thus freeing seniors for work of greater importance at a time when industry is short of qualified men.

Works Administration

Everything has now been arranged so that works managers carry, and only carry, those activities deemed intrinsic parts of production proper, and they are thus able to devote their whole time to this end, relieved as they have been from all extraneous duties, and yet secure in the knowledge that they may call upon the services of specialists from all points, either within or without the undertakings.

Thus the administration of the works has been reduced to its simplest possible form.

Conclusion

The past few years have been a period of acute shortage and sharply rising prices; thus, the gas industry has been called upon to meet supply difficulties and increased costs for all goods and services when it has been a buyer. These adverse factors at Liverpool have been partly offset by an increased yield from by-products and expanding gas sales, but to the author's mind the factor which has really turned the scales has been the all-round economies achieved under the simplified organization on strictly functional lines, an organization which has promoted improvements in a manner and to an extent not possible under any alternative form. In brief, the published price of gas has been constant at 11.6d. per therm, a full an uninterrupted gas supply has been given at all times, and customer service has been improved in both speed and quality.

Functionalism hinges, as the author has stated previously, on the employment of one person to be responsible to the higher management for the welfare of one group of like activities, and this person, sooner or later, must be a specialist.

The term " Functionalism " is reasonably new, but more than 1,800 years ago Pliny quoted as a then ancient proverb the fundamental principle underlying this form of organization when he wrote what might well be taken as the motto of this paper:

Ne Sutor Ultra Crepidam.

NATIONAL BENZOLE ASSOCIATION

At the annual general meeting of the National Benzole Association on June 9 Sir Richard Pease, Bart., was re-elected President and Mr. S. A. Sadler, Chairman of Messrs. Sadler & Co., Ltd., and Mr. A. E. Sylvester, Chairman-Designate, Gas Council, were re-elected Vice-Presidents. The Executive Committee is as follows: Representing *Scotland*: J. M. Mitchell; *N. England*: R. D. McCowan; *N.E. England*: R. Alsop, C.B.E., E. Crowther, Sir Richard Pease, Bart., B. Sadler, S. A. Sadler, L. Shuttleworth; *Yorks, Staffs and Derby*: S. Billbrough, E. L. Ford, G. A. Hebden, C. A. Murray, M. H. Rollason, Sir H. E. G. West, G. C. Neilson, T. A. McKenna; *N.W. England and N. Wales*: Colonel W. M. Carr, O.B.E., J. H. Hughes, C. Lord; *W. England and S. Wales*: H. H. Bates, H. H. Merrett; *Midlands*: A. W. Lee, S. Robinson; *S. England*: Dr. T. H. Butler, R. C. Todhunter, A. G. Saunders; *the Gas Industry*: R. J. Auckland, C. S. Shapley, Colonel H. C. Smith, C.B.E., A. E. Sylvester, W. M. Valon, M. Milne-Watson, together with A. Hittinger, Chairman and Managing Director, and R. J. Smith, Director and General Manager, of the National Benzole Co., Ltd.

GENERAL CONDITIONS OF CONTRACT

We have received from Mr. Fred R. Mitchell, Engineer and General Manager of the County Council of Lanarkshire Gas Department, a copy of a Specification and General Conditions of Contract which he has prepared to cover all contracting work in connexion with the laying of gas mains in the undertaking's area of gas supply. In the past, direct labour has been employed, but in view of the large amount of work at present being undertaken Mr. Mitchell has been obliged to employ contractors for some of the work.

The document, covering 37 foolscap pages, is a general specification issued to contractors who are submitting estimates for trench work in mainlaying operations. A separate schedule of quantities is prepared for each job and issued with the general specification, which is itself adapted for the particular work by appropriately filling in the several blanks.

The general conditions of contract cover all the usual requirements as to fair wages, superintendence, insurance, tests, payments, &c. and the specification of works is dealt with under four headings: (*a*) General; (*b*) Gas Main Tracks; (*c*) Earthwork, Trenches, Tunnels, and Excavations, &c.; and (*d*) Mainlaying, Testing, &c. An Appendix sets out conditions applicable to the opening up and restoring of roads and streets under the Roads and Bridges (Scotland) Act, 1878.

We have read the document with interest and commend its usefulness to other gas undertakings at the present time, when so many main-laying operations are being carried out.

The Offices of the Coal Utilization Joint Council are now at 13, Grosvenor Gardens, London, S.W.1 (Telephone Victoria 1534).

GAS UNDERTAKINGS' RESULTS

Holyhead and North Wales Gas and Water Corporation.—Out of a total revenue of £85,298 for the year ended Mar. 31, there was a net profit of £6,890, compared with £7,600 for the previous year. A dividend of 7½% leaves a balance of £11,995 to be carried forward, against £10,254 brought in. The report of the Corporation, which operates gas undertakings at Holyhead, Llangefni, Menai Bridge, Pwllheli, Llanberis, Llanfairfechan, Penmaenmawr, and Llanrwst, records an increase of 7,194,000 cu.ft. in gas sales for the year.

Cape Town and District Gas Light and Coke Company.—It was reported at the annual meeting on June 18 that total revenue for the year ended Dec. 31 was £142,172, compared with £125,957 for the previous year, an increase of nearly 13%, and after charging debenture and general interest, &c., the available balance of £21,136 was higher by £13,081. Adding £6,174 brought in makes a total of £27,310, an increase of £12,931. Out of this total, funding certificate interest and preference stock dividend have been met. A dividend of 4% for the year on Ordinary stock was declared, against 2½% for 1946, leaving, after provisions set out in accounts, a balance of £7,629 to be carried forward. Rebuilt retorts brought into working during the year enabled the Company to meet increasing demands for gas, particularly for industrial processes. If the rate of expansion continues, additional production and distribution plant will be called for in the near future. The position as to delivery of plant is far from hopeful at present. Work was completed during the year on the foundations for a new gasholder, but fabrication of materials was held up by restrictions over which the suppliers had no control and will delay completion of the erection contract. On the whole good progress has been made in overtaking arrears of maintenance and the position has steadily improved, although much remains to be done.

Following arrangements with the manufacturers (Chance Brothers, Ltd.), W. Edwards & Co. (London), Ltd., have been appointed sole United Kingdom export agents for the new " Flamemaster " hand torch. This burner is of advanced design and will have many applications in this country and wide export appeal. The Edwards Type IV compressor unit has been designed for operating burners of this type and is available immediately for users who have no convenient source of compressed air and require a compact portable unit, capable of working continuously with reliability. Beside acting as a compressor, the Type IV pump will produce a vacuum of 26 in. Hg. (660 mm. Hg.), therefore many other uses will be found in works and laboratories.

PUBLICATIONS RECEIVED

Since 1791 the Lowmoor Iron Works has produced puddled wrought iron for a multiplicity of uses, particularly for use in cases requiring resistance to corrosion and ability to withstand sudden stresses or unequal loads. The composition of Lowmoor iron and its manufacture form the subject of an interesting 16-page booklet, well illustrated with photographs of some of its applications and test results. Ductility, fatigue, corrosion, and forging qualities are some of the sections, and the latter part of the booklet is devoted to the results of various tests carried out by railway companies, the Ministry of Transport, and other bodies.

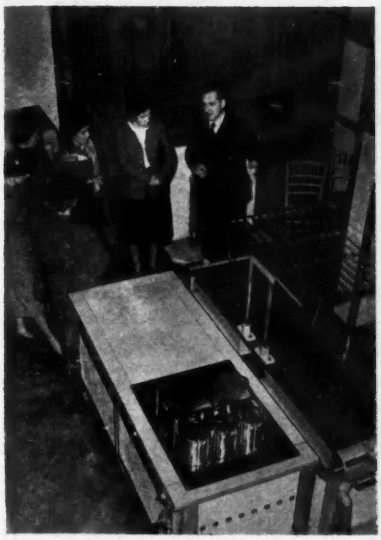
* * *

The attractive catalogue produced by the Chaseside Engineering Co., Ltd., relies for its appeal mainly upon a series of excellent action photographs of mobile handling equipment operating under varying conditions. Chaseside cranes and buffer tractors are featured, but the bulk of the available space is devoted to the mechanical shovel. This compact and powerful machine is shown in action with coal, coke, slag, rock shale, chalk, clay, gravel, sand, granite chips, and for use in roadmaking, farming, and for several other purposes. Its advantages are impressive and include the ability to excavate below tyre level, automatic return of scoop to shovelling position, small turning radius, speedy conversion to one-ton crane, and discharge heights from 2 ft. to 13 ft. 6 in.

Large Scale Cooking

By arrangement with a number of education authorities and technical colleges 40 domestic science organizers recently visited the London showrooms of Radiation, Ltd., to see and discuss large cooking equipment and the lastest type of domestic New World gas cooker.

The visitors came from Acton, East Ham, Borough, Essex, West Ham, Kent, and Surrey.



Mr. Alex Russell, London Manager of Radiation (Large Cooking Equipment), Ltd., explaining the two different types of oven available on the Grosvenor range.

COMPANY NEWS

Low Temperature Carbonization, Ltd.—Trading profits and sundry incomes for the year ended Mar. 31 of the parent company and four of its subsidiaries amounted to £377,312, compared with £267,113 for the previous year. Opportunity has been taken to write off the balance of the Company's investment in the South Wales Coalite Company amounting to £24,997, leaving a balance of profit of £352,315. With a final dividend of 6% the Ordinary dividend for the year is unchanged at 10%, leaving a balance of £140,643 to be carried forward. Further improvement in results, states the Directors' report, is due to an additional output of Coalite smokeless fuel and to a marked increase in the volume and value of the various chemical products manufactured by the wholly-owned subsidiary, the British Diesel Oil and Petrol Company at Bolsover. After provision for debenture interest, taxation, and amounts retained by subsidiaries, the net profit of the parent Company was £143,304, against £112,423. It is proposed to change the name of the Company to "Coalite and Chemical Products, Ltd." The Directors feel that the present name gives no indication of the business of the Company, nor of the fact that it carries on a very large business in the manufacture of chemical products from coal.

GAS STOCKS AND SHARES

Any advantage that the stock markets might have derived from the removal of the deadlock over the European Recovery Programme as a result of which Marshall aid will start soon was more than offset at the beginning of last week by the spread of the London dock strike, and the 7,626 bargains recorded on the London Stock Exchange on the Monday was the lowest Monday total since Oct. 27 last year. Better trade figures and hints of an end of the dock strike brought about a steadier tendency on the next two days, but by Thursday the Prime Minister's statement as to the serious effects of a continuance of the strike, combined with the delicate situation which arose out of affairs in Berlin, and, to some extent, with the counter-attraction of the Test Match at Lords, brought about a further restriction of business. Thursday's dealings, at 6,268, were, in fact, the lowest record for the year.

British funds just about held their own during the week, with an index figure of 112.41 on Thursday, compared with 112.38 for the previous Thursday.

Gas stockholders were again reminded of the approach of nationalization. Mr. A. E. Sylvester, Chairman-Designate of the Gas Council to be set up when the Gas Bill becomes an Act, himself expressed the opinion last Thursday that vesting date may well be April 1, 1949. In the meantime transactions in gas securities appear to be diminishing in numbers, the total for last week being 240 against 261 for the preceding week. The lowest day's total was 38 on Monday, against the record low figure of 29 reported on June 17. Among all the companies included in the list published monthly in the "JOURNAL" there were only three net price changes on the week, two of which were in respect of overseas undertakings.

The week's price changes were as follows

OFFICIAL LIST

Imperial Continental Gas Assoc.	115 —120	—	3
Primitiva Holdings, ord. ...	12/6 — 14/6	—	6d.
Sheffield, 4 p.c. red. deb.	95 —100	+	1

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This book is an introduction to the subject of gas distribution practice, and, as such, deals with the general principles involved in conveying town gas from the gas works where it is made to the point of entry to the premises where it is consumed. It makes no pretence to be a complete treatise on the subject. It is a book primarily for students and has as its main objective the presentation of the essential facts in a simple manner.

Extract from the review appearing in "GAS JOURNAL," April 21, 1948

". . . In his preface the author says that his main objective has been to present the essential facts in a simple manner and in the first volume to cover the examination requirements of the Institution of Gas Engineers up to Ordinary Grade standards.

Mr. Le Fevre has undoubtedly achieved the main objects of his task. The book presents in simple but comprehensive form a complete introduction to the study of gas distributing practice, and while in the main it may be considered as a student's text book, it will undoubtedly find its place in most distributing engineers' libraries.

The range of the book is most comprehensive. . . . . The book is liberally illustrated with photographs of plant and equipment and, more particularly, line and detailed sketches which should prove invaluable to the student studying for the examinations of the Institution of Gas Engineers (Supply) Course. It will undoubtedly prove a great boon to both lecturer and student and fill a gap which exists in the present limited range of text books available in the gas industry."

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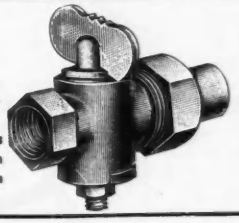
Illustration shows safety device in LOCKED position

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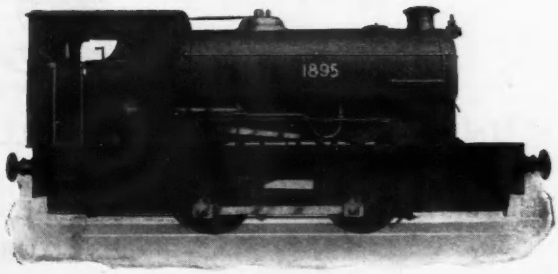

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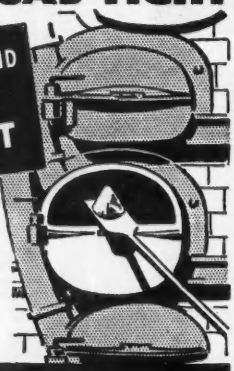

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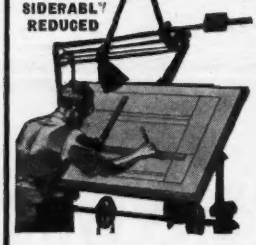

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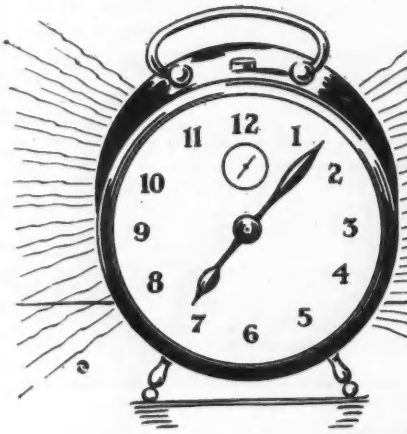

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APPLICATIONS are invited for the above SCHOLARSHIP, which was provided to enable students to undertake courses in either gas, chemical, mechanical or civil engineering at the University of Leeds.

Preference will be given to candidates who reside within the Borough boundaries of Stockton-on-Tees or Thornaby-on-Tees, or who attended a grammar or secondary school in Stockton or Thornaby, or who are either employees or the children of employees of the Power-Gas Corporation, Ltd., or of Messrs. Ashmore, Benson, Pease & Co., Ltd. Candidates should be under the age of 19 years on October 1, 1948.

Full details may be obtained from the Registrar, The University of Leeds, to whom applications should be sent before July 31, 1948.

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FOR SALE three Connersville EXHAUSTERS or BOOSTERS, approx. 25,000 c.f.h., with A.C. motor and drive. Also 1,800 ft. DRY METER stamped 1948. Apply No. 9741, "GAS JOURNAL," 11, Bolt Court Fleet Street, London, E.C.4.

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THE Gas Committee invites tenders for the supply, erection and putting into operation of two ELECTRO-STATIC DETARRERS at Rochdale Road Gas-works.

General conditions specification and form of tender may be obtained on application to the Commercial Manager and Secretary, Gas Depatrment, Town Hall, Manchester, 2.

Sealed tenders in the envelope provided, addressed to the Chairman of the Gas Committee and endorsed "Electro-static Detarrers, Rochdale Road Works," must be delivered at the Gas Office, Town Hall, Manchester, 2, not later than 5 p.m., Tuesday, July 27, 1948.

The Committee does not bind itself to accept the lowest or any tender.

PHILIP B. DINGLE,
Town Clerk.

Town Hall,
Manchester, 2.
June, 1948.

APPOINTMENTS VACANT

None of the vacancies in these columns relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he or she is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

FIRST-CLASS REPRESENTATIVE required for Midlands to market gas appliances for established company. Salary, commission and expenses. Write, giving full details of previous experience, to No. 9739, "GAS JOURNAL," 11, Bolt Court, Fleet Street, London, E.C.4.

THE GAS RESEARCH BOARD (the Research Association of the British Gas Industry) requires RESEARCH STAFF in the categories of physics, chemistry (mainly physical), and engineering.

Candidates must have a sound fundamental scientific knowledge and be capable of independent research. Appointments will be made from the graduate level of about £350 per annum to £1,200 per annum depending upon experience and capabilities.

Appointments are subject to F.S.S.U. contributions following a probationary period of six months. Applicants should apply in writing to the DIRECTOR, The Gas Research Board, 1, Grosvenor Place, London, S.W.1, stating academic qualifications and general experience.

WEST RIDING GROUP OF GAS COMPANIES

TECHNICAL ASSISTANT.

THE above Group of Companies have a vacancy for a fully qualified TECHNICAL ASSISTANT at a commencing salary of £400 per annum. Applicants should have good practical experience of carbonization in horizontal retorts, C.W.G. plant operation, and general gas-works practice.

Applications, accompanied by three recent Testimonials, should be addressed to H. B. TAYLOR, General Manager, West Riding Group of Gas Companies, Warrengate, Wakefield, Yorks, not later than July 10, 1948.

COUNTY BOROUGH OF HALIFAX

(BOROUGH ENGINEER'S DEPARTMENT.)

APPOINTMENT OF HEATING AND VENTILATING ASSISTANT.

APPLICATIONS are invited for the above appointment at a salary in accordance with Grade IV, A.P.T. of the National Scales (£480, rising to £525 per annum). Candidates must be competent to design and supervise the maintenance of heating and ventilating plant and should possess appropriate technical qualifications.

The successful candidate will be required to pass a medical examination and the appointment is a superannuated one.

Applications appropriately endorsed, stating age, qualifications and experience, together with *copies* of three Testimonials, should be delivered to the undersigned not later than Saturday, July 10, 1948.

R. DE. Z. HALL,
Town Clerk.

Town Hall,
Halifax.
June 19, 1948.

HAWICK GAS COMPANY LIMITED

SENIOR TECHNICAL ASSISTANT.

APPLICATIONS are invited for the position of SENIOR TECHNICAL ASSISTANT. Applicants must have sound laboratory training in a large undertaking, tar distillery or by-products works.

This is a good opportunity for a chemist to widen his experience with a view to qualifying for an executive position in the gas industry.

Salary up to £500 per annum is offered, dependent upon experience and qualifications.

Applications, stating age and giving full details of past experience, technical qualifications, along with *copies* of two recent Testimonials, should be lodged with the undersigned not later than Monday, July 12, 1948.

ROBERT COWIE,
Engineer and Manager.

Gas-works,
Hawick, Roxburghshire.

(*Classified advertisements continued on Supplement* 4)

APPOINTMENTS VACANT (ctd.)

REPRESENTATIVES required already calling on gas undertakings to represent a firm with new domestic gas appliances already introduced. Areas required: Midlands, South Coast, Scotland, and North of England. Car is essential. To represent on commission basis.—Apply No. 9740, "GAS JOURNAL," 11, Bolt Court, Fleet Street, London, E.C.4.

PENRITH URBAN DISTRICT COUNCIL

GAS-WORKS SUPERINTENDENT.

APPLICATIONS invited. Salary National Council Miscellaneous, Grade II, £365 x £15—£410, with house, gas and fuel in addition.

Applicants should have had mechanical training, experience in the control of horizontal retorts and charging machinery, automatically operated C.W.G. and benzole plant, the organization and control of labour, and should be able to supervise the repairs and maintenance of all gas-works plant and machinery including electrical gear.

Applications, stating age, present position, training and experience, together with names of two persons to whom reference may be made to be received by the undersigned not later than Monday, July 12, 1948.

G. H. HUNTLEY,
Clerk of the Council.

Town Hall,
Penrith,
Cumberland.
June 16, 1948.

CORPORATION OF THE CITY OF ABERDEEN

TECHNICAL ASSISTANT.

APPLICATIONS are invited for a position as a TECHNICAL ASSISTANT in the Corporation Gas Department, Aberdeen.

Applicants must be Corporate Members of the Institution of Gas Engineers, or of an engineering institution of similar status, and experienced in the design, construction and operation of gas-works plant, or in the planning and carrying out of gas mains extensions.

The salary scale for the post is £390, rising by annual increments to £570 per annum. Initial placing will be determined by the selected candidate's qualifications and experience.

The post is superannuable and the candidate selected will be required to pass a medical examination before appointment.

Applications, stating age, qualifications, present appointment and experience, accompanied by a *copy* of each of three recent Testimonials, must be lodged with H. S. Milne, City Gas Engineer, Cotton Street, Aberdeen, on or before Saturday, July 10, 1948.

J. C. RENNIE,
Town Clerk.

Town House,
Aberdeen.
June 14, 1948.

COUNTY BOROUGH OF ROCHDALE

(GAS DEPARTMENT.)

APPLICATIONS are invited for the position of DRAUGHTSMAN. Applicants should be qualified engineers (A.M.I.Gas E. or its equivalent). The post is not on the regular establishment of the Department and is a temporary one, but the services of the official are likely to be required for at least three years, and probably longer.

The salary paid will be in accordance with Grade III, A.P. & T. Division of the National Scales (£450, rising by annual increments of £15 to £495 per annum).

Canvassing, directly or indirectly, will be a disqualification. Candidates must disclose whether to their knowledge they are related to any member or senior official of the Council.

Applications, stating age of applicant, giving full details of qualifications and experience, together with the names of two persons to whom reference can be made, should be addressed to the Engineer and Manager, Gas-works, Dane Street, Rochdale, and must be received not later than July 12, 1948.

G. F. SIMMONDS,
Town Clerk.

Town Hall,
Rochdale.
June 25, 1948.

COUNTY BOROUGH OF MIDDLESBROUGH

(GAS DEPARTMENT.)

INDUSTRIAL GAS ENGINEER.

APPLICATIONS are invited for the appoint- ment of INDUSTRIAL GAS ENGINEER in the Gas Department on Grade V, A.P.T. (£520 to £570). The appointment is permanent, superannuable and subject to the National Conditions of Service.

Candidates must have a sound experience in the design, installation and maintenance of industrial gas equipment, particularly of central heating and bakers' oven installations with automatic control equipment, and the conversion of such installations from solid fuel to gas.

Forms of application and terms of appointment may be obtained from the Gas Engineer and Manager, Gas-works, Commercial Street, Middlesbrough, to whom they are returnable not later than July 12, 1948.

E. C. PARR,
Town Clerk.

Municipal Buildings,
Middlesbrough.

PAISLEY CORPORATION

(GAS DEPARTMENT.)

APPOINTMENT OF CHIEF CLERK.

APPLICATIONS are invited for the above appointment at a salary in accordance with Grade IV, A.P.T. Division of the National Joint Industrial Council for Local Authority Services (Scotland) (£420 to £465 per annum), plus war bonus, at present £90.

Candidates should hold recognized accountancy qualifications, have administrative ability and experience in modern office routine, and be conversant with statistica returns and estimates required in the gas industry.

The post will be subject to the provisions of the Local Government Superannuation Act, 1937, and the successful candidate will be required to pass a medical examination.

Applications, endorsed "Chief Clerk, Gas Department," stating age, training, qualifications and experience, accompanied by *copies* of two recent Testimonials, should be delivered to the undersigned not later than Wednesday, July 14, 1948.

JAMES M. DOW,
Engineer and Manager.

Gas Engineer's Office,
27, McKenzie Street,
Paisley.
June 18, 1948.

THE MONTEVIDEO GAS AND DRY DOCK COMPANY, LIMITED

SALES AND SERVICE SUPERINTENDENT.

APPLICATIONS are invited from suitably qualified persons, approximately 30-35 years of age, for the position of SALES AND SERVICE SUPERINTENDENT to the Company.

Applicants, who should hold the Higher Certificate of the Institution of Gas Engineers in Gas Engineering (Supply), will be required to take charge, under the Resident Chief Engineer and Manager, of the Sales and Service Department, and should be capable of organizing sales promotion schemes for the development of the use of gas for domestic, commercial and industrial purposes, and of supervising the proper installation and maintenance of general apparatus.

A sound, practical knowledge of the preparation of specifications and estimates for installation work is an essential qualification, and experience in a meter and stove repair shop will be an additional recommendation.

The commencing salary will be equivalent to a sum of not less than £900 per annum.

Uruguay is a most friendly country with an excellent climate and no income tax. It will be essential for the successful applicant to acquire a good working knowledge of Spanish within a reasonable period.

Applications, stating age, number and ages of children, if any, and giving full particulars of previous employment and experience, together with recent Testimonials, should be forwarded to the undersigned not later than July 23, 1948.

W. A. H. KEELEY,
General Manager and Secretary.

The Montevideo Gas and Dry Dock Co., Ltd.,
321, Dashwood House,
Old Broad Street,
London, E.C.2.

LISBURN URBAN DISTRICT COUNCIL

(GAS DEPARTMENT.)

APPLICATIONS are invited for the position of GENERAL FOREMAN.

Applicants should have previous experience in the operation and control of both vertical and horizontal retorts, and be able to supervize the repairs and maintenance of all gas-works plant and machinery.

Wages according to qualifications and experience.

Full details of training and experience to be sent to the undersigned.

G. A. MCNEICE,
Engineer and Manager.

Gas-works,
Lisburn, Northern Ireland.
June 22, 1948.

TOTTENHAM AND DISTRICT GAS COMPANY

APPLICATIONS are invited for the position of HOME SERVICE ADVISER on the Eastern Area of the above Company. Applicants must hold the City and Guilds Certificate in Cookery (Ordinary Grade) and possess the ability to lecture and demonstrate to audiences without assistance. Duties consist of developing the work of the Home Service Section under the general direction of the Area Manager and the suitable candidate will be employed in the Tottenham district. Salary will be according to age and experience. Applications, giving full particulars of qualifications and experience, should be sent to the PERSONNEL OFFICER, Tottenham and District Gas Company, Woodall House, 658, Lordship Lane, Wood Green, N.22.

COUNTY BOROUGH OF BURNLEY

APPOINTMENT OF GAS ENGINEER AND MANAGER.

APPLICATIONS are invited for the appoint- ment of GAS ENGINEER AND MANAGER of the County Borough of Burnley, at a salary of £1,160 per annum, rising, subject to satisfactory service, by two annual increments of £50 to £1,260 per annum.

The appointment is subject to the provisions of the Local Government Superannuation Act, 1937, and the successful applicant will be required to pass a medical examination by the Council's Medical Officer.

Canvassing, either directly or indirectly, will be a disqualification.

Forms of application and conditions of appointment can be obtained from the undersigned, to whom they must be returned, accompanied by *copies* of three recent Testimonials, not later than Thursday, July 8.

C. V. THORNLEY,
Town Clerk.

Town Hall,
Burnley.
June 18, 1948.

BRITISH GAS LIGHT COMPANY, LIMITED

CHATTERIS STATION.

WANTED. WORKS MAINTENANCE FITTER who is able to assist with service laying for 35 million works. Single man preferred owing to difficulty of accommodation. Wages 2s. 3½d. per hour. Apply, stating age, experience and enclosing two *copies* of recent Testimonials, to L. C. B WILLIAMS, 15, King Street, Thetford.

This advertisement appears by permission of the Ministry of Labour and National Service under the Control of Engagement Order, 1947.

COUNTY BOROUGH OF MIDDLESBROUGH

(GAS DEPARTMENT.)

ENGINEERING DRAUGHTSMAN.

APPLICATIONS are invited for the appoint- ment of ENGINEERING DRAUGHTSMAN AND TECHNICAL ASSISTANT in the Gas Department, on Grade III, A.P.T., £450 x £15—£495 per annum. The appointment is permanent, superannuable and subject to the National Conditions of Service.

Applicants must have experience in the design and construction of gas-works plant, preferably with experience with a gas-works plant manufacturer.

Forms of application and terms of appointment may be obtained from the Gas Engineer and Manager, Gas-works, to whom they are returnable not later than July 17, 1948.

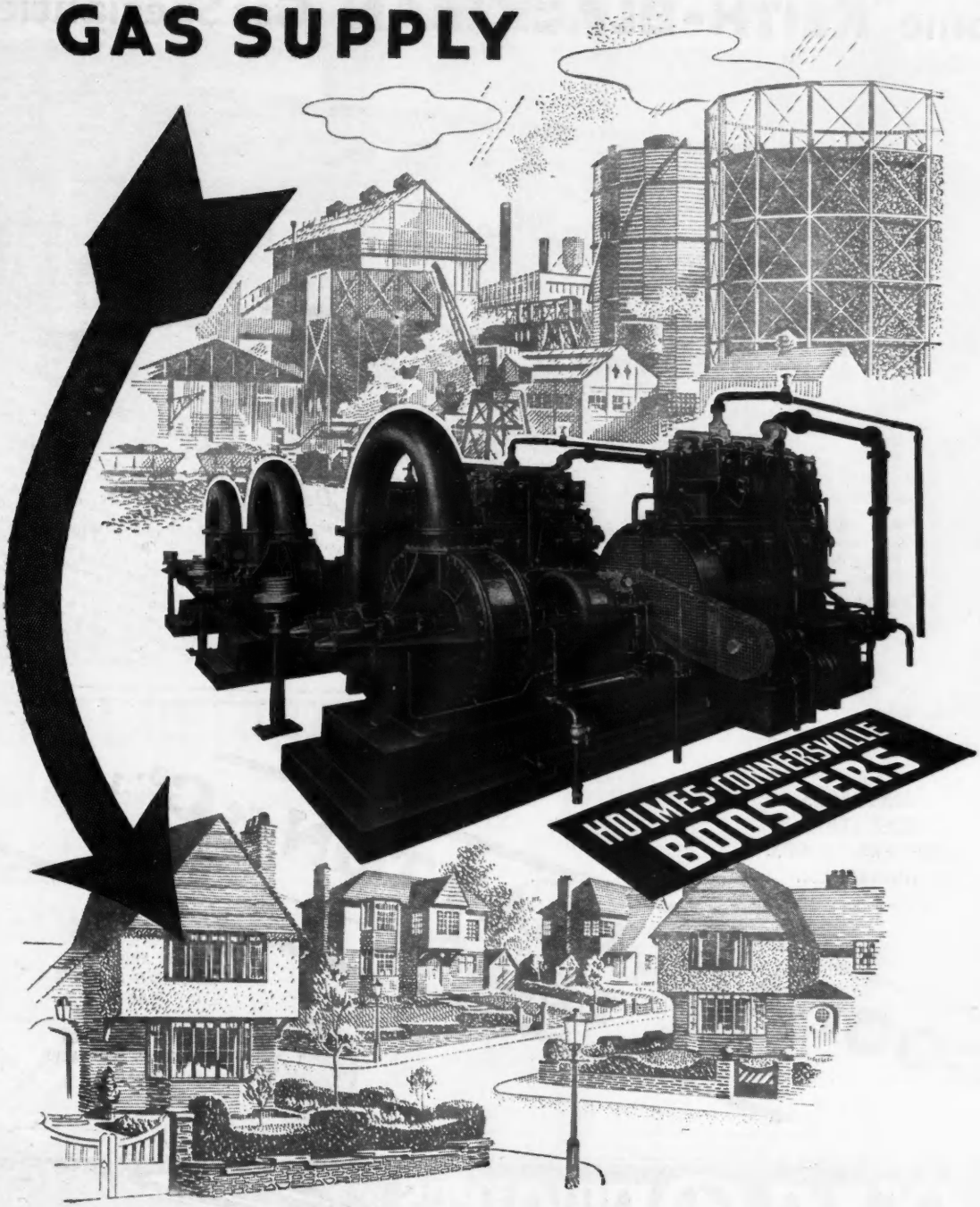
This advertisement is published by permission of the Ministry of Labour and National Service, under the Control of Engagement Order, 1947.

E. C. PARR,
Town Clerk.

Municipal Buildings,
Middlesbrough.

Get in on the Under Belly of RUST (Engineers' Enemy No. 1.)
Years of Wear instead of Weeks
GRANT & WEST LTD
'PHONE NORTH 2160
Steel Wires, Ropes & Cables running in and out of Water, Gas, Sulphurous Fumes etc. will never RUST if treated with
ROPRES
IT KILLS RUST
STAYS on every STRAND.
RUST KILLS ROPES, — but ROPRES rope preservative KILLS RUST. Use ROPRES.
Try a Tin on our Guarantee
3, Furlong Road, London, N.7.
'GRAMS: "SELEKJOINA, HOLWAY, LONDON"

GAS SUPPLY



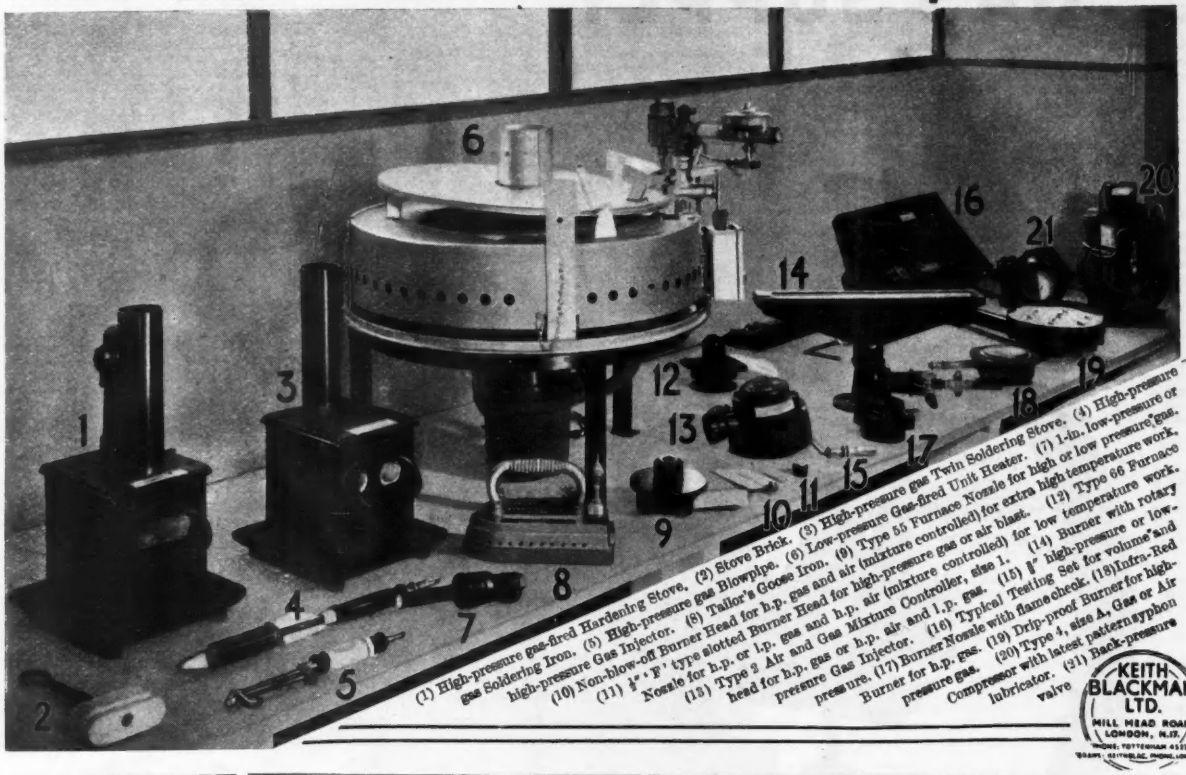
AT CONSTANT PRESSURE

FOUNDED HOLMES 1850

GAS & CHEMICAL ENGINEERS
HUDDERSFIELD · LONDON · BIRMINGHAM

C262

Some "KEITH-BLACKMAN" Gas Specialities



(1) High-pressure gas-fired Hardening Stove. (2) Stove Brick. (3) High-pressure gas Twin Soldering Stove. (4) High-pressure gas Soldering Iron. (5) High-pressure gas Blowpipe. (6) Low-pressure Gas-fired Unit Heater. (7) 1-in. low-pressure or high-pressure Gas Injector. (8) Tailor's Goose Iron. (9) Type 55 Furnace Nozzle for high or low pressure gas. (10) Non-blow-off Burner Head for h.p. gas and air (mixture controlled) for extra high temperature work. (11) ½" "F" type slotted Burner Head for high-pressure gas or air blast. (12) Type 66 Furnace Nozzle for h.p. or l.p. gas and air (mixture controlled) for low temperature work. (13) Type 2 Air and Gas Mixture Controller, size 1. (14) Burner with rotary head for h.p. gas or h.p. air and l.p. gas. (15) ½" high-pressure or low-pressure Gas Injector. (16) Type(a) Testing Set for volume and pressure. (17) Burner Nozzle with flame check. (18) Infra-Red Burner for h.p. gas. (19) Drip-proof Burner for high-pressure gas. (20) Type 4, size A, Gas or Air Compressor with latest pattern syphon lubricator. (21) Back-pressure valve

KEITH BLACKMAN LTD. MILL MEAD ROAD LONDON, N.17.

CONVEYORS, ELEVATORS, BUNKERS, ROOFS, HOISTS, Etc.

GOODALL, CLAYTON & Co. LTD. LEEDS.

COAL AND COKE SCREENING & SIZING PLANTS.

RETORT SETTINGS PRODUCERS, FURNACES REPAIRS.

GAS RETORTS

HARRIS & PEARSON LTD STOURBRIDGE ENGLAND

INSULATING BRICKS, RECUPERATOR TUBES, SPECIAL SEMI-SILICA QUALITY FOR SEGMENTAL RETORTS WITH NO EXPANSION OR CONTRACTION AT 1400° C

Manufacturers of

Fire Bricks, Lumps & Tiles

OF EVERY DESCRIPTION

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for

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ALBION IRONWORKS MANCHESTER

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Telegrams: Stoker, Manchester

London Office:

COLUMBIA HOUSE, ALDWYCH, W.C. 2

Telephone: HOLborn 4108-9

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Wellington's words in 1813 during the Peninsular War when paying tribute to his men. History repeats itself and today we again rely upon British Courage and resource.

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FOR STEEL TUBES AND STEEL TUBE FABRICATION

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